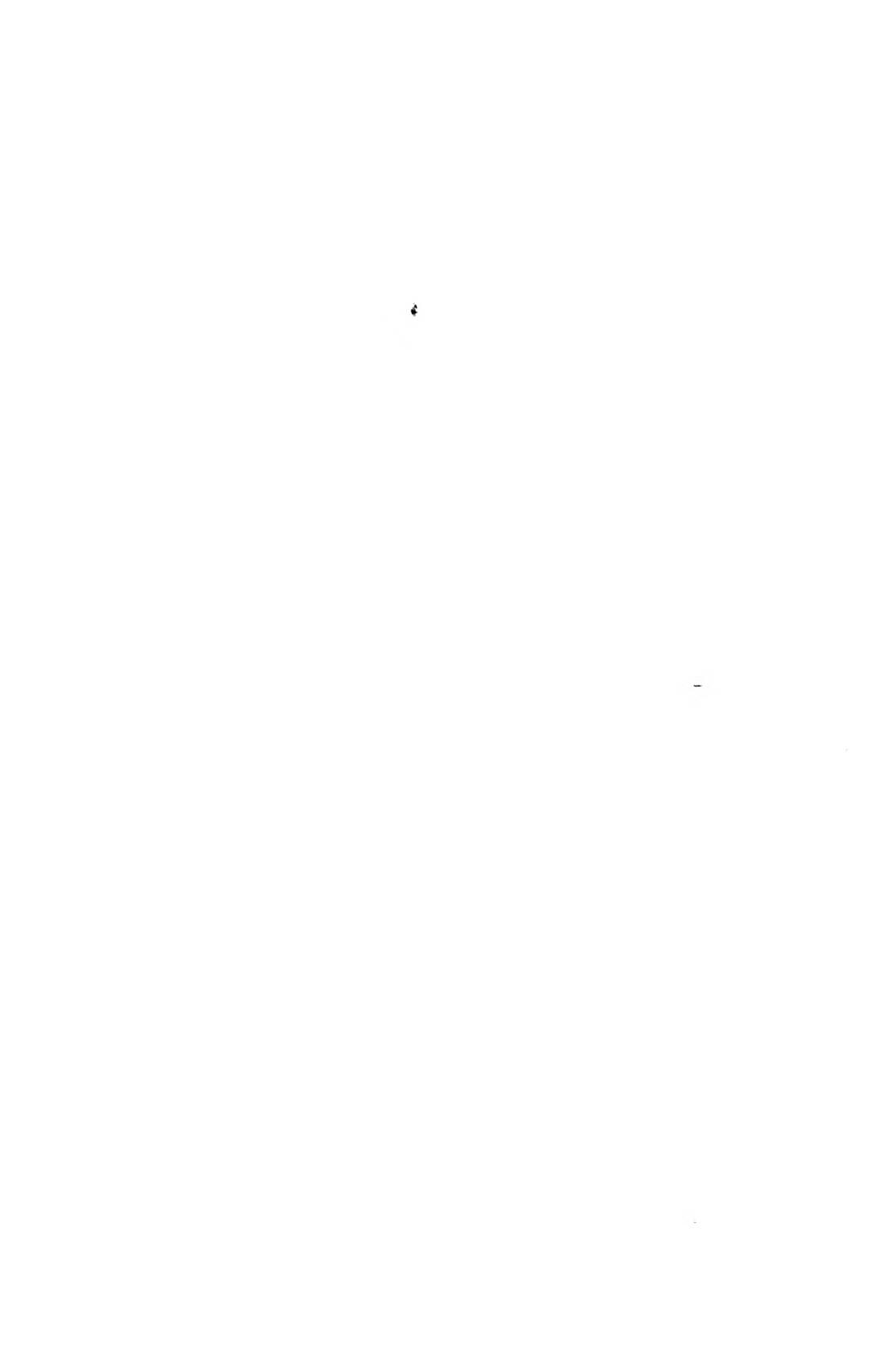


A standard linear barcode is positioned vertically on the left side of the label. It consists of vertical black bars of varying widths on a white background.

3 1761 06184237 3





Clarendon Press Series

A MANUAL

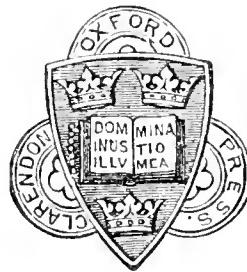
OF

COMPARATIVE PHILOLOGY

PAPILLON

London

HENRY FROWDE



OXFORD UNIVERSITY PRESS WAREHOUSE

7 PATERNOSTER ROW

Clarendon Press Series

A MANUAL

OF

COMPARATIVE PHILOLOGY

AS APPLIED TO THE ILLUSTRATION OF

GREEK AND LATIN INFLECTIONS

BY

T. L. PAPILLON, M.A.

Fellow and Tutor of New College, Oxford

Formerly Scholar of Balliol, and Fellow of Merton

THIRD EDITION, REVISED AND CORRECTED

Oxford

AT THE CLARENDON PRESS

1882

[All rights reserved]

21/10/2018

PREFACE.

THIS book contains the substance of lectures delivered at Oxford in 1874 and 1875 to candidates for Honours in Classics at the First Public Examination, upon the prescribed subject of ‘the Elements of Comparative Philology as applied to the illustration of Greek and Latin Inflections,’ and therefore does not profess to deal with more than a very limited portion of the wide field covered by the Science of Language. In the course of my lectures I was often met by the difficulty of recommending to pupils any English text-book that would give them in a compact and accessible form the means of preparing the subject for themselves¹; and I had hoped that the want thus felt might have been supplied for our students by the Oxford Professor of Comparative Philology. So long as there was any prospect of help from that quarter, it would have been presumptuous in me to come forward. But Professor Max Müller was unable to spare time from more important labours; and the preparation of this Manual was perforce entrusted to very inferior hands.

As to the educational value of the limited area of philological study which is here surveyed, I am aware that opinions

¹ Since this was written, Mr. Peile’s ‘Primer of Philology’ (Macmillan) has provided beginners with an admirable little introduction to the study of Comparative Philology.

differ. It is said, for example, that a study of the forms of Greek and Latin words is a mere effort of memory, testing neither the reflective powers nor the application of deductive method, and therefore not worth introducing as a separate subject into the curriculum of study for Classical Examinations at Oxford. It might, I think, be asserted with equal truth that, inasmuch as some acquaintance with the history of Greek and Latin Inflections as read in the light of Comparative Philology is essential to an intelligent study of the grammar of those languages, some knowledge of the elements of that science might fairly be exacted from all candidates for classical honours. I am not however concerned with a defence of the study of Comparative Philology. Its bearings upon some of the most interesting problems of ethnology, of history, and of religion are too well known to require assertion; and if a mere knowledge of the forms of two or more languages seems to carry the student but a little way towards these higher regions of the science, it must be remembered that such elementary knowledge, small at first and gradually and carefully extended, is the only sure foundation for more advanced research, without which all enquiry into higher problems may lose itself in a wilderness of conjecture. I believe that a minute study and comparison of the forms of two such languages as classical Greek and Latin, or of two or more among the languages of modern Europe, with a due comprehension of the laws of phonetic change that have operated to produce existing divergences from common forms, is the best possible preparation for an adequate grasp of any of the higher problems into which the science of language enters. It has an interest too in itself; the interest of tracing in different languages the divergence, and regular processes of phonetic change, of words and forms common to them all; the interest of

detecting meaning and force in much that appears at first sight arbitrary and unmeaning; above all, the interest of watching the *life* of a language and its perpetual growth and change in the mouths of those who speak or have spoken it. No apology, I think, is needed for any attempt to lay in the minds of boys or young men the foundation, however limited, of such a study.

The arrangement which I have adopted is that which has been found most convenient for teaching purposes. In its main outlines it is the same as that adopted by Schleicher in his ‘Compendium der Vergleichenden Grammatik,’ and by teachers in the schools of Germany, if I may judge from a useful little summary entitled ‘Sprachwissenschaftliche Einleitung in das Griechische und Lateinische, für obere Gymnasialklassen,’ by Professor Baur of Maulbronn¹. It will be observed that the names referred to below as of leading authority are (unless England has by this time established a claim to Professor Max Müller) mainly German; and it is not too much to say that at present Comparative Philology cannot be thoroughly studied without at least a moderate acquaintance with the German language. But the best German philological works (to say nothing of their size and cost) are often, from the very exhaustiveness of their treatment, only confusing to beginners, who require a smaller array of facts more simply and clearly arranged. And valuable as are the translations into English of such works as Bopp’s ‘Comparative Grammar,’ Curtius’ ‘Principles of Etymology’ or ‘The Verb,’ or Schleicher’s ‘Compendium,’ to the advanced student or teacher, they are both in quantity and quality above the requirements of the schoolboy or the undergraduate during the first period of his

¹ Accessible to English readers in a translation by Messrs. C. Kegan Paul and E. D. Stone (H. S. King and Co., 1876).

University life: to serve whom is the less ambitious, but I trust not less useful aim, of the present work.

I have still to admit, and to claim indulgence for, an imperfect knowledge of the Sanskrit forms necessary for the illustration of corresponding forms in Greek and Latin. But in preparation for the second edition (1877) the work had the advantage of revision (so far as the Sanskrit forms are concerned) by Professor Max Müller; and the present edition has had the additional advantage of supervision by Mr. D. B. Monro. Their united authority may command a confidence that otherwise would be beyond my reach. To secure a uniform system of transliteration from Sanskrit to Roman character, I have given below a Table of the Devanāgarī letters with their equivalents as employed in this book. Of the two alternative modes of representing the ‘palatal’ and ‘cerebral’ mutes given in Professor Max Müller’s own table, I had in the second edition adopted that which represents them by the ‘guttural’ and ‘dental’ characters respectively in a different type, e. g. **k**, **kh** (guttural), *k*, *kh* (palatal); **t**, **th** (dental), *t*, *th* (cerebral): but it now seems to be on the whole more convenient to follow the majority of German philologists in the employment of a uniform type, and to represent the ‘palatal’ mutes by **c**, **ch** (*tenuis*), **j**, **jh** (*mediae*); the ‘cerebral’ mutes by **t**, **th**, **d**, **dh**; and the palatal sibilant by **ç**. The employment of *j* in this connection involves its abandonment in Latin words as the expression of the consonantal (semivowel) sound of *i*, which corresponds not to the palatal *media* (ज, ज), but to the palatal ‘spirant’ (ए, य): and, though the convenience (as with *u*, *v*) of two distinct characters for two distinct sounds is thus sacrificed, the misleading associations of the English pronunciation of *j* in e.g. *judex* (*iudex*) are thereby avoided. As a representative of the Sanskrit palatal *media*, *j* retains something nearly approaching

its English pronunciation. In column V of the table on p. 42 will be found stated the *probable* pronunciation of the letters of the Roman alphabet; and where this differs from the English pronunciation of the same letters (as in the vowels *a, e, i, u*, the consonants *c, g* before *e, i*, and the semivowels *j, v*), the Roman, not the English, pronunciation is presumed in all Latin words cited. With this caution, I hope that any confusion as to the relation between the letters in question and the sounds represented by them, into which English usage might lead us, may be avoided.

For corrections and hints towards the preparation of this edition I have to thank, among others, an American correspondent (Mr. J. E. Goodrich, Burlington, U. S. A.) who has pointed out some typographical errors in the previous edition. But my chief debt has been to Mr. D. B. Monro, Vice-Provost of Oriel College, who has most kindly looked through the whole book in its second edition, and many of the proof-sheets for the third, and has favoured me with many valuable corrections and suggestions. Some of these are acknowledged where they occur; but their sum-total exceeds the limits of due acknowledgment. Those who best know Mr. Monro's calibre as a scholar and philologist will be most ready to believe that any advantage in consistency, clearness, or accuracy which the present edition may have over its predecessor, is due to him; and least willing to lay at his door the responsibility for any faults or inaccuracies that still remain. To the Delegates of the Clarendon Press I need only repeat my thanks for care taken and courtesy shown in all arrangements for publication.

T. L. P.

Table of the Devanāgarī Sanskrit Alphabet, with the corresponding Roman characters employed in transliteration
of Sanskrit Words (adapted from Max Müller's 'Sanskrit Grammar for Beginners').

	Tenuis.		Aspirated Tenues.		Mediae.		Aspirated Mediae.		Nasals.		Liquids.		Sibilants.		Vowels ¹ .		Diphthongs.	
	Short.	Long.	Short.	Long.	Short.	Long.	Short.	Long.	Short.	Long.	Short.	Long.	Short.	Long.	Short.	Long.	Short.	Long.
Gutturals.	क k	ख kh	ग g	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh	ঁ gh
Palatals.	চ c	ছ ch	ঁ j	ঁ jh	ঁ j	ঁ jh	ঁ j	ঁ jh	ঁ j	ঁ jh	ঁ j	ঁ jh	ঁ j	ঁ jh	ঁ j	ঁ jh	ঁ j	ঁ jh
Linguals (or Cerebrals).	ত t	ঁ th	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh
Dentals.	ত t	ঁ th	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh	ঁ d	ঁ dh
Labials.	প p	ঁ ph	ঁ b	ঁ bh	ঁ b	ঁ bh	ঁ b	ঁ bh	ঁ m	ঁ m	ঁ v	ঁ v	ঁ m	ঁ m	ঁ v	ঁ v	ঁ u	ঁ u

Unmodified Nasal (Anusvara), · in

Unmodified Sibilant (Visarga), : h

¹ Each vowel (except ঁ a) has two signs; the first initial, the second used when it follows a consonant. See below, p. 35, note 3.

LIST OF AUTHORITIES REFERRED TO IN THE PRESENT WORK.

BOPP's 'Comparative Grammar,' translated by Eastwick.

MAX MÜLLER, 'Lectures on the Science of Language.'

'Chips from a German Workshop,' 4 vols.

'Selected Essays on Language, Mythology, and Religion,' being a republication of the more important 'Chips,' with some additional papers. Longmans, 1881.

SCHLEICHER, 'Compendium der Vergleichenden Grammatik.' 3rd edition, 1871. (Translated into English by Mr. H. Bendall. Trübner, 1874-1877.)

CORSSEN, 'Ueber Aussprache, Vokalismus und Betönung der Lateinischen Sprache.' 2nd edition, 1868. (The authority for Latin philology, and the storehouse from which Peile, Roby, Wordsworth, and others mentioned below, have drawn much of their information.)

'Kritische Beiträge,' and 'Kritische Nachträge zur Lateinischen Formenlehre.'

CURTIUS, 'Grundzüge der Griechischen Etymologie.' 2nd edition, 1866. (Translated into English by Prof. Wilkins and Mr. England, of Owens College, Manchester.)

'Tempora und Modi,' an admirable treatise on the formation of Tenses and Moods in Greek and Latin. Berlin, 1846. (Now out of print.)

'Das Verbum der Griechischen Sprache.' Vol. i. 1873: vol. ii. 1876. The latest result of Curtius' studies, superseding much of 'Tempora und Modi.' (Translated into English by Messrs. Wilkins and England. Murray, 1880.)

'Greek Grammar.' (Published in English as 'The Student's Greek Grammar.')

'Greek Grammar Explained,' or 'Elucidations,' a translation by Mr. E. Abbott of 'Erläuterungen zu meiner Griechischen Schulgrammatik,' published by Prof. Curtius in 1863, as a companion to his 'Greek Grammar.'

- LEO MEYER, 'Vergleichende Grammatik der Griechischen und Lateinischen Sprache.' (Especially valuable for its exhaustive collection of examples, from which the student can form his own induction as to particular formations.)
- PEILE, 'Introduction to Greek and Latin Etymology,' 3rd edition. (Macmillan, 1875.)
- A Primer of Philology. (Macmillan, 1877.)
- ROBY, 'Latin Grammar (Vol. I) on Sounds, Inflections and Word-Formation.' (Macmillan, 1871.)
- SAYCE (Rev. A. H., Fellow of Queen's College and Deputy Professor of Comparative Philology, Oxford), 'Introduction to the Science of Language,' 2 vols. (C. Kegan Paul and Co., 1880.)
- WORDSWORTH (Rev. John, Brasenose College, Oxford), 'Fragments and Specimens of Early Latin.' (Clarendon Press, 1874.)
- FERRAR, 'Comparative Grammar of Sanskrit, Greek, and Latin,' Vol. I. (The author's death unfortunately left the work half-finished before he had treated of Verb-Inflections.)
- FARRAR (Rev. Dr., Canon of Westminster), 'Chapters on Language,' and 'Families of Speech.'
- WHITNEY (Professor of Sanskrit and Comparative Philology in Yale College, U. S. A.), 'Life and Growth of Language.' (Published in England by H. S. King and Co., 1875.)
- MONRO (D. B., Vice-Provost of Oriel College, Oxford), 'A Homeric Grammar' (Clarendon Press, 1882).

CONTENTS.

CHAPTER I.

	PAGE
INTRODUCTORY	1-3

CHAPTER II.

CLASSIFICATION OF LANGUAGES—

‘Morphological’ and ‘Genealogical’ classifications—Table of the Indo-European Family—Table of correspondence between its members—‘Romanic’ or ‘Romance’ languages; their origin—Table of correspondence between them—Features of change from synthetic to analytic languages exhibited by them	4-27
--	------

CHAPTER III.

CLASSIFICATION OF SOUNDS—

General principle of phonetic change to secure ease of articulation—Comparative strength or difficulty of sounds according to the physical conditions of their production—Consonants; their threefold classification—Vowels and Diphthongs. Relation of sounds to letters—Sanskrit alphabet	28-39
---	-------

APPENDIX TO CHAPTER II—

On the Greek and Roman Alphabets	40-48
--	-------

CHAPTER IV.

CHANGES AND MODIFICATIONS OF SOUNDS—

General principles—‘Dynamic’ change: Reduplication, Vowel-Intensification, and Nasalisation—‘Phonetic’ change: Substitution, Loss, Assimilation, and Dissimilation of Vowels and Consonants—Changes due to indistinct utterance—National peculiarities of utterance—Grimm’s Law	49-91
---	-------

CHAPTER V.

	PAGE
FORMATION OF WORDS—	
Radieal and Formative Elements—Roots, Stems, and Inflections—Processes of Word-Formation	92-101
APPENDIX TO CHAPTER V—	
A. List of Nominal Suffixes—B. Derivative Verbs in Greek and Latin	102-104

CHAPTER VI.

NOUN-INFLECTION—

Number of Cases—Gender and modes of Generic Distinction—Declension—Suffixes of Case-Inflections in detail—Comparison of Adjectives—Paradigms	105-141
--	---------

CHAPTER VII.

INFLECTION OF PRONOUNS—

Pronouns without Gender: First and Second Personal, and Reflexive—Paradigms—Pronouns with Gender: Paradigm of stem <i>ta-</i> —Peculiarities of Latin Pronominal Declension	142-157
---	---------

CHAPTER VIII.

VERB-INFLECTION—

Distinction between Noun and Verb—Augment, Thematic or Connecting Vowel—Classification of Verbs—Person-Endings—Mood-Signs—Tense-Stems and their formation—Infinitives and Participles	158-240
---	---------

APPENDIX I.

Specimens of Early Latin Inscriptions	241
---	-----

APPENDIX II.

Formation of Adverbs in Greek, Latin, and Sanskrit—Table of Prepositions	247
General Index	257
Index of Sounds and Forms Explained	261

CHAPTER I.

INTRODUCTORY.

THE main object of the present work, as indicated by its title, ^{Object of} the work. is the philological explanation of the Inflections in Greek and Latin. For the purposes, however, of such explanation it is necessary to presume a certain acquaintance with the main results of the Science of Language or Comparative Philology, and with the terms commonly in use among philologists; and we must begin with understanding, (1) the general classification of Preliminary Languages, and the place in the history of human speech of ^{questions.} those languages with which we are immediately concerned, viz. Greek and Latin; (2) the classification of Sounds and the letters by which they are represented, and of the processes of change which sounds have undergone in human speech; (3) the constituent elements of language—i. e. ‘roots’ or simplest forms, and formative elements, including Inflections. Into questions of the origin of language, and the connection between its simplest discoverable forms and the ideas expressed by them, we need not enter. The balance between the two extreme views of language as a conventional¹ production—a view based upon the

¹ The view that language is ‘conventional,’ in the sense that people meet or ever met together to deliberate on the meaning and changes of words, is of course easily ridiculed. The term, however, may also be applied to language in opposition to the idea that there is any *necessary* connection between words or ‘roots’ and the ideas signified by them, or that there are organic forces of growth in speech itself which, by some mysterious natural process, without human agency, produce new material and alter old. These ideas exercise a kind of fascination over some students of language; but it is reasonably maintained that spoken language (as distinct from the *faculty* of language implanted in man) is an

Discussion
of the
Nature and
Origin of
Language
unnece-
ssary.

apparent meaninglessness of its formal elements—and language as an organic being, producing those formal elements by virtue of a mysterious principle of growth inherent in its nature, has been clearly drawn by Professor Max Müller in those Lectures on the Science of Language¹, ‘to whose world-wide popularity (it has been well said) Comparative Philology owes its present position and its present charm :’ and for this question, with others that relate to the aim and methods of Comparative Philology, we cannot do better than refer to a book which for every English student of that science should be the avenue by which he approaches it. But we may examine the relation of Latin and Greek words to each other or to Sanskrit, or trace the history of varying forms in any one language, without touching such questions as that of the Onomatopoeic or Interjectional origin of human speech (the ‘Bow-Wow’ and ‘Pooh-Pooh’ theories of Professor Max Müller), or deciding whether language arose from imitations of cries and sounds (as it often does in the nursery) or from exclamations expressive of pleasure or pain or other emotions of mind or body. The furthest researches into the history of language and the utmost possible analysis of written or spoken languages bring us to certain primitive and elementary combinations of sounds which we call ‘roots;’ but we cannot arrive with any certainty even at the ultimate *form* of these roots. The earliest traceable condition of that ‘Indo-

external medium of communication, learnt in childhood by mere imitation, and not inherited as a race-characteristic, or independently produced by each individual with his mental and bodily growth. The acquisition by each individual of his own language in childhood is the gradual accumulation, by imitation of those around him, of a stock of signs, which are so far arbitrary and ‘conventional,’ in that each is bound to the idea signified only by a tie of mental association, and not by any natural and necessary connection. ‘Language’ is not a faculty or capacity, but a developed result ; and the assumption that man is gifted at his birth not only with the capacity, but also with its elaborated results, is a theory, not of a Divine, but of a ‘miraculous’ origin of speech.

The question of the Nature and Origin of Language is treated in a popular form by Prof. Whitney in his ‘Life and Growth of Language’ (see especially ch. xiv.). He assigns a more important place to the ‘imitative,’ or ‘onomatopoeic’ principle than some philologists allow ; but on a question of this nature much latitude of opinion is possible, and his remarks are very suggestive and instructive.

¹ See Lectures, Series I. Lect. v. on ‘Comparative Grammar.’

European' speech, of which (as we shall see) Sanskrit, Greek, and Latin, with the other languages comprised under that term, are dialectical varieties, is evidently far removed from the primeval time when language first arose—as is clear, among other reasons, from its highly developed vowel-system, and the employment of vowel change rather than the earlier and simpler method of reduplication¹ to express modifications of ideas: and therefore speculations as to the connection between its elements and the ideas expressed by them can be of little use for the purposes of a science which (as Professor Max Müller points out) collects *facts* and accounts for these facts as far as possible. It is at least probable that language owes its origin to a combination of imitational and interjectional sounds: for it is difficult to assign any other origin to speech, and the phenomena of dawning speech in infants point to this as one natural origin for conscious sound: but the existing materials of language, with which alone Philology has to do, give us no data upon which to base any calculations as to the exact mode in which such growth of speech began. Passing by, therefore, such questions, we may proceed to the consideration of the points already mentioned as introductory to the explanation of Greek and Latin Inflections; viz. the classification of languages, the classification of sounds, the changes and modifications of sounds, and the elements of word-formation. These will occupy the next four chapters, and the discussion of Inflections properly so called will follow in chap. vi.

¹ On this point consult Peile's 'Introduction to Greek and Latin Etymology,' pp. 173 sqq. (3rd edition); and see below, ch. iv.

CHAPTER II.

CLASSIFICATION OF LANGUAGES.

Two-fold
classification of lan-
guages.

GREEK and Latin are ‘inflectional’ languages of the ‘Indo-European’ family. These terms refer to a double classification, viz. (*a*) *morphological*, according to the mode in which modifications of ideas are expressed by combination of primitive elements; (*b*) *genealogical*, according to similarity of grammatical forms.

*a. Morpho-
logical.*

(*a*) The ‘morphological’ classification distinguishes three ‘stages’ of growth in language¹ :—

1. ‘Radical’ or ‘Isolating,’ in which the simplest elements of speech or ‘roots’² are employed as words, without modification of their own sounds or combination with each other: mere juxtaposition of isolated roots expressing modification of ideas. Chinese and its kindred dialects are examples of this stage.

2. ‘Agglutinative’ or ‘Terminational ;’ in which roots are joined together to form words. In such compounds one root loses its independent form, and appears as a sound expressive of meaning tacked on (as prefix or suffix) to the other, which remains as the primitive element or ‘root’ of the word. The Finnish and Tataric languages, and the dialects of the aborigines

¹ For details which are beyond the province of the present work, see Max Müller’s Lectures, Series I. Lect. viii. (on ‘Morphological Classification’).

² It is necessary here to anticipate the distinction (explained below in ch. v.) between the ‘radical’ elements in words or ‘roots,’ i.e. the simplest part of each word which expresses its general idea or meaning, and the *formative* elements by which this general idea, common to many words, is defined and modified. For purposes of instruction, ch. v. may, if it seems convenient, be taken before ch. ii.

of the Pacific Islands (grouped by Professor Max Müller and others under the name ‘Turanian’) appear to be in this stage.

3. ‘Inflectional;’ in which both roots (i. e. the ‘root’ proper and the suffix) are modified according to regular processes for the expression of meaning. The Semitic and Indo-European families of speech fall under this head.

This classification may be illustrated by constructing an imaginary history, passing through these three stages, of some Greek or Latin word, e. g. *εἰμι* (*ibo*). The ultimate forms or ‘roots’ to which philological analysis has reduced the two syllables of which this word is composed, are *i* (idea of ‘going’) and *ma* (1st personal pronoun). We should have these roots combined in the Radical stage by simple juxtaposition [*i ma*]; in the Agglutinative, by suffixing one to the other, and modifying the root thus suffixed [*i-ma*, *i-mi*]; in the Inflectional, by modification of both roots [*ai-mi*, *εἴμι*].

The student must bear in mind that this is a classification, not of languages, but of varieties of linguistic development; and that though, when we speak of Chinese as ‘Isolating,’ Hungarian as ‘Agglutinative,’ Greek and Latin as ‘Inflectional,’ we give a correct idea of the general characteristics of those languages, and their *structural* contrast to each other, we do not imply that there is in any one of these languages no trace of the structural characteristics of the others. The higher ‘agglutinative’ dialects (e. g. Finnish and Hungarian) are almost inflectional, and in some respects analogous to the Indo-European languages; while in inflectional languages many forms are found in which the ‘root’ maintains its own form and distinction from the suffixes, no less completely than in an agglutinative language. Thus to take the Greek word just employed as an illustration; beside *εἴμι*, a typical inflectional form, we have *ἴ-μεν*, *ἴ-τε*, in which the root proper remains unmodified¹. Again, beside *εἴμι* (*sum*), we have the dialectical variety *εσμί* (Aeol.), in which the root as of the Sanskrit *asmī* remains in a much less

Illustration
of the three
stages of
morphologi-
cal growth.

The three
'stages' not
always mu-
tually exclu-
sive;

¹ It should be stated that recent philological researches (especially of Fick and De Saussure) have made it probable that in *εἴ-μι* as cp. with *ἴ-μεν*, *ἴχω* (*σεχ-ω*) cp. with *ἴ-σχ-ον*, *πείθω* cp. with *ἴ-πιθ-ον*, the longer form of the root is the older. See Monro, ‘Homeric Grammar,’ § 37.

modified form—the *e* being at most a phonetic variety of *a*¹ (see p. 36)—and which in this respect of root modification marks a transition stage, and that not very far upon the road, from Agglutination to Inflection. And as in English the line between mere juxtaposition and word composition is often hard to draw, cp. e.g. ‘house floor’ and ‘housetop,’ ‘godlike’ and ‘godly,’ so it is often in languages of low development a matter of doubt where isolation ends and agglutination begins; and even Chinese, the purest example of the first, is by some regarded as being in its colloquial forms and in some of its dialects a language of compounded words.

nor always
historical for
each lan-
guage.

On the other hand, it is misleading to speak of these ‘stages of development’ as marking a definite *historical* progress of individual languages from a lower to a higher state of civilisation. History offers no proof that all inflectional languages have previously passed through an agglutinative stage of development, or that isolating languages must pass on with increasing civilisation to an agglutinative and finally to an inflectional stage. What has once *become*, remains: Chinese, which at a very early stage became what it is, a language of the ‘isolating’ type, remained in that condition, and, like Chinese civilisation, stopped once and for all in its growth. It remained, so to speak, a precocious child; while of inflectional languages it may be said that they grew to manhood before they stopped—the agglutinative stage representing an intermediate period of advance from childhood towards manhood. As *languages*, sufficiently developed for the purposes of national speech, those of each type remain what they have once become—isolating like Chinese, agglutinative like Tataric, or inflectional like Latin. This fact, however, need not preclude the supposition that in the earliest growth of *language*—a growth which lies far beyond the remotest period to which the evidence of, or inference from, the facts

¹ De Saussure (‘Mémoire sur le Système Primitif des Voyelles dans les Langues Indo-Européennes’) shows a reason for thinking that the *a* sound was already modified in *pronunciation* both in Sanskrit and in the primitive Indo-European speech, though it was reserved for Greek to express this varied pronunciation in written character.

of written or spoken languages carries us back—the elements out of which it grew must have exhibited the progressive stages of which we speak. ‘Agglutination,’ for instance, presupposes two things which could be ‘glued’ together: that is, it presupposes an earlier stage of ‘isolation.’ ‘Inflection’ presupposes something which was not ‘inflected,’ but was capable of being so; that is, it presupposes a state of either isolation or agglutination, or of both in succession. These ‘stages’ then are (as has been already pointed out) varieties of linguistic development, the developed results of which, in written or spoken languages, exhibit as a rule the characteristics of one or other variety, not of two or of all in succession.

With this limitation it seems perfectly reasonable to reconcile this theory of three stages of development with the facts of language, which offer little evidence of actual progress by individual languages from one stage to another. They are types or varieties of development; not historical stages of growth. Accordingly, though spoken Chinese and some of the higher agglutinative dialects are said to approach more or less to inflection, their general characteristic remains what it always has been. And in Indo-European languages, though analysis of the verb-inflections (above, p. 5) seems to point to an earlier agglutinative stage and a still earlier period of simple isolated roots, we cannot as a matter of fact point to a period when the two parts e.g. of *εἰμι* were ever of full and equal power as independent words in language; and though we may trace formative suffixes back to roots with general meanings [e.g. *-tar* in *pater*, *mater*, etc., and the terminations in *-τωρ*, *-τορ* of nouns of agency, to the root = to ‘cross’ or ‘get through’ (with a thing) which appears in *trans* and *through*], we do not thereby prove the previous existence, as historical fact, of an isolating or agglutinative stage (i.e. of an invariable root) in what are, and so far as our evidence goes always have been, inflectional languages. Comparison and analysis of the Indo-European languages enable us to form some conception of the state of civilisation attained by those who spoke the primitive mother tongue upon the table lands of Central Asia—a civilisation

probably much below the contemporary civilisation of China. There is, however, no evidence to connect these stages in the growth of language with stages of civilisation : and we see that the language of China remained in the isolating stage, while that of our Indo-European ancestors must have already passed from the stage of isolation through that of agglutination to the inflectional stage, in which it is presented to us by the earliest ascertainable *data* of Philology. These *data* show us the case and person endings, for example, in the condition of grammatical forms—inflections or modifying suffixes ; and there is no trace, as far as meaning goes, of their having ever been separate or agglutinated particles. While Chinese has remained in the most primitive stage, fossilised, so to speak, like the whole Chinese civilisation, the Indo-European languages, so far as we can trace them, have always been in the most advanced stage : but for enquiry into the causes of this difference, which is an enquiry into the mental characteristics of the different races of mankind, the facts of language offer no foundation : and it is of these facts alone (as has already been said) that Comparative Philology takes cognisance.

b. Genealogical classification.

(b) Genealogical Classification :—

This classification gives us three main ‘families’ or groups of languages, according to similarity (*a*) in vocabulary, (*b*) in grammatical forms : viz.

1. *Semitic*, including Hebrew, Arabic, Assyrian, and their kindred dialects.

2. *Indo-European* (otherwise called ‘Indo-Germanic’ or ‘Aryan’), including the following subordinate classes or groups — Indic, Iranic, Hellenic, Italic, Keltic, Slavonic, and Teutonic.

The languages comprised under both these heads are ‘inflectional.’

3. *Turanian*¹ (otherwise called ‘Ural-Altaic,’ ‘Mongolian,’ ‘Tataric,’ or ‘Seythian’), including the languages of the nomadic

¹ The name ‘*Turanian*,’ familiar from its use by Prof. Max Müller, is retained as a designation of the ‘class’ of languages, for which some prefer one or other of the names here quoted. See Whitney, ‘Life and Growth of Language,’ pp. 231, 232.

races of Asia and Europe (Laplanders, Hungarians, Samoyeds, Turks, Mongols, Tartars, etc.), and the dialects of Siam, Malay, and the Polynesian Islands. These languages are all ‘agglutinative,’ and though it is impossible to trace in them anything of the same family likeness of vocabulary or grammatical forms, as in the Indo-European or Semitic groups—the absence of such family likeness being naturally characteristic of the dialects of a nomad population, among whom no nucleus of a political, social, or literary character has ever been formed, which could give fixity to and create definite standards for language—we may accept, as sufficient warrant for the application to them of the term ‘class’ or ‘group,’ the statement that ‘some of the Turanian numerals and pronouns, and many Turanian roots, point to a single original source; and the common words and common roots which have been discovered in the most distant branches of the Turanian stock warrant the admission of a real, though very distant, relationship of all Turanian speech!'

It is, however, with the ‘Indo-European’ languages that we are now concerned. The fact implied by this name is now a familiar truth established by Comparative Philology, viz. that a comparison of the languages of all the civilised races of Europe, and two at least of those of Asia (Indian and Persian), proves beyond doubt that these languages are branches of a common stock, and with reasonable probability that there was once a time when the ancestors of Germans and Slaves, of Greeks, Italians, and Kelts, of Persians and Hindús, were settled in a rudimentary stage of civilisation upon the plains of Central Asia², and spoke the same language, subject to such dialectical variety as must always arise in a primitive state of society, with imperfect communication between the scattered members of a single nation or even of a single tribe. This time is, however, pre-historic; and though, upon the evidence of language, philo-

¹ Max Müller’s Lectures, I. viii.

² ‘We may picture the tribes which used the parent-Aryan speech as living on the slopes of the Hindu-Kush, in the high central table-land of Asia, and watching the sun as it set evening after evening behind the waters of a great inland sea.’ Sayce, Introd. to the Science of Language, ii. p. 124.

logists sketch out for us the state of civilisation and manners of this primitive people, and even claim to restore the ‘Ur-sprache’ or primitive language anterior to any dialectical variation, we cannot regard these as historical facts, the only *facts* before us being the phenomena exhibited by different kindred languages, by Sanskrit, Greek, Latin, etc., which we group under the term ‘Indo-European¹’.

This term seems to be that of widest meaning, and most obviously inclusive of all the languages in question. The name *Indo-Germanic*, employed by many German scholars, is hardly comprehensive enough of the European branch of the family; while the names *Sanskritic*, *Japhetic*, *Mediterranean* (suggested by Ewald), and *Caucasian*, are each open to the objection of countenancing misleading notions². There remains the term *Aryan*, popularised in this country by Professor Max Müller’s Lectures, and employed by many philologists as a designation of the Indo-European family; but by some in the more restricted sense of *Indo-Iranian*, i. e. to denote the Asiatic sub-division of the Indo-European family. This latter usage, however, is likely to create confusion with its much more frequent use in the wider signification of Indo-European³.

¹ The forms of the original language can only be arrived at approximately, and may often be wrongly inferred; as would probably be the case if Latin were lost and had to be recovered by comparison of the Romance languages. But to be of any value for illustration they must be conceived as having had a real existence.

² *Sanskritic* might suggest the idea that all Indo-European languages are derived from Sanskrit; *Japhetic*, from the Hebrew point of view of the three ancestors of the human race, would include tribes in Northern Europe and Asia who speak Turanian languages; *Mediterranean* refers only to one phase in the history of Indo-European nations, and the central position once occupied by, but now no longer belonging to, the people who spoke these languages; and *Caucasian* implies the reverse of truth, for it seems clear that no Caucasian tribes, with the exception of a small colony at Iron (?=Aryan), belong to Indo-European races.

³ The term *Aryan* has the advantage over *Indo-European* of being short and (as a word of foreign origin) of lending itself more easily to any technical definition that may be assigned to it: and as a mere ticket or label of classification, there is no doubt much to be said for its use. I should not therefore presume to discard it altogether; but I still think that the fact implied on the face of the term *Indo-European* (a term sanctioned by the high authority of Bopp) is a good reason for on the whole preferring this latter term. The existence too of another and more limited use of the term *Aryan* (as = Asiatic or Indo-Iranian) is somewhat

The languages comprising the Indo-European (or Aryan) family may be arranged thus in three main divisions:—

Subdivisions
of the Indo-
European
family.

A. Asiatic Division :—

I. *Indic.*

- a. Sanskrit, the ancient literary language of the Vedas, or sacred books of the Hindús: Prakrit (including Pali, the sacred language of the Buddhists in Ceylon) being the provincial dialects of the mass of the community¹.
- b. Modern Indian dialects, Hindi, Bengali, Mahratti, etc.

II. *Iranic.*

- a. Zend (or Old Bactrian), the language of the Zend-Avesta or sacred books of the religion of Zoroaster.
- b. Old Persian, of the ‘cuneiform’ inscriptions.
- c. Pehlavi or Huzvaresh, the language of translations of the Zend-Avesta and coins of the Sassanidae; much subject to Semitic influence.
- d. Modern Persian.
- e. Armenian, and Kurdie dialects (?).

B. South-West European Division :—

III. *Hellenic.*

- a. Ancient Greek.
- b. Modern Greek.

against its acceptance as *the* technical term for the whole family of languages. It is, however, retained by some philologists as a collateral term with *Indo-European*. For the origin and uses of the term *ārya* I need only refer to Prof. Max Müller's Lectures, I. vi. pp. 224-236, 1st edition. [I am glad to find, what at the time this note was first written I did not know, that I have the support of Mr. Peile in preferring ‘Indo-European’ (*‘Introduction,’ p. 34, 3rd edition*).]

¹ The word ‘Sanskrit’ (Sāṃskṛita, संस्कृत = *confectus, constructus*) means what is rendered ‘fit’ or ‘perfect,’ i. e. for sacred purposes; hence ‘purified,’ ‘sacred,’ ‘Prakrit’ (Prākṛita, प्राकृत = ‘derived’ or ‘secondary’) is the term applied to the spoken dialects which gradually rose out of Sanskrit as from a source or type (*prakriti*), by the natural process of change and corruption which the pure Sanskrit underwent in its adaptation to the exigencies of a spoken dialect. The various modifications of Prakrit are the links which connect Sanskrit with the modern dialects of Hindustan. It should be noted that there is a large body of Prakrit (or non-Vedic) literature included under the general term Sanskrit; the older Sanskrit literature being generally specified as ‘Vedic.’

IV. *Italic.*

- a. Latin, Osean, Umbrian, the three dialects of ancient Italy.
- b. The modern ‘Romance’ (or ‘Romanic’) languages; viz. Italian, Spanish, Portuguese, Provençal, French, Wallachian, Romansch.

V. *Keltie.*

- a. Cymric or Armorican, including Cornish, Welsh, and the dialect of Brittany.
- b. Gadhelic, including Gaelic, Erse, and Manx.

C. North-West European Division :—**VI. *Slavonic.***

- a. Lettic—Old Prussian and Modern Lithuanian.
- b. Slavonic Proper—Bulgarian, Russian, Polish, Bohemian, Servian.

VII. *Teutonic.*

- a. High German (spoken in the upper countries of the Rhine, Main, and Neckar), including Old High German, Middle High German, and Modern German.
- b. Low German (in the Lowlands of North Germany, Holland, and Belgium), including (1) Gothic, Anglo-Saxon, and English; (2) Old Saxon and Frisian, and Dutch.
- c. Scandinavian—Old Norse and Modern Icelandic, Swedish and Danish.

Comparative antiquity and order of separation from primitive stock. Of these sub-divisions the Asiatic (A) contains most that is ancient in sounds and fabric of language, and fewest strongly-developed individual forms. The South-West European (B) stands next in this respect; while the North-West European group (C) shows most individuality of development, and fewest remains of a common stock. The diffusion of this common stock under all these different forms over the Continent of Europe is generally recognised as the result of successive migrations westward from the original home of the Indo-European or Aryan nations in

TABLE OF THE INDO-EUROPEAN FAMILY OF LANGUAGES.

(Those above the horizontal line are *dead* languages, those below it living or spoken languages.)

ASIAE.		S.W. EUROPEAN.				N.W. EUROPEAN.	
I. Indic.	II. Iranic.	III. Hellenic.	IV. Italic.	V. Keltic.	VI. Slavonic (and Lettic).	VII. Teutonic.	
Sanskrit. Prakrit, ¹ Pali.	Zend. Cuneiform In- scriptions.	Classical Greek Dialects: Ionic, Doric, Aeolic, Attic.	Ancient Italian Dialects: Oscian, Umbrian, Latin.	I. Cymric; Cornish (lately extinct).	Old Bulgarian (or ³) Church Slavic. — Old Prussian, ⁴	1. Old High Ger- man. 2. Gothic. Anglo-Saxon, Old Saxon. 3. Old Norse.	
Modern Indian Dialects: Hindi, Bengali, Maharatti, etc. Gipsy Dialects (Hindu patois).	Modern Persian, Armenian, Kurdish, Afghan, ²	Modern Greek.	‘Romanic’ Lan- guages: Italian, Spanish, Portuguese, Provengal, French, Wallachian, Romanisch.	Welsh. Breton. 2. Gadhelic: Gaelic, Irish, Manx, — Lithuanian. Livonian (or Let- tish), ⁵	Persian. Polish. Bohemian. Servian. — Flemish.	1. German. 2. English, Frisian, Dutch, Danish. 3. Icelandic, Swedish, Danish.	

¹ Prakrit, the provincial corruption of the purer Sanskrit of the educated classes, preserved chiefly in some of the Sanskrit dramas.

² The Afghan is by some considered an Indian dialect.

³ The sacred language of the Greek Church.

⁴ Spoken in Kurland and Livonia.

Central Asia¹: and this being so, the phenomena just noted lead us to infer that the first to separate and lose connection with the parent stock were the ancestors of the nations comprised under group (C); that these were followed by the ancestors of those under group (B); the ‘Aryan’ proper comprised under group (A) alone remaining East of the Ural Mountains. This inference from the phenomena of language is borne out by the geographical position of the different branches of the race. If we take a map, we shall find that, as a general rule, the more eastward the position of an Indo-European people, the more traces of what is old and common to other languages of the same family are retained in its language; while the further north-west and west they have gone, the less of what is old and the more new formations does their language retain. Nor does the western-most position of certain languages in the group which stands second in order of separation (e. g. the French, Spanish, and Keltic), interfere with the truth of this general statement; such position being due to special historical causes, e. g. the spread of the Roman Empire to the Atlantic Ocean, and (in the case of Keltic) the gradual pressure of the Teutonic nations, driving the Kelts further and further westward. These Kelts, whom we meet with as the conquerors of Rome under Brennus (B.C. 390), and 100 years later as the invaders of Macedonia and Greece, and of whom Herodotus speaks as dwelling in the extreme west of Europe², apparently in Spain, must have spread into

¹ It must, however, be remembered that the evidence of successive order of separation, furnished by the closer relationship of particular dialects, is at the best vague, and the conclusions drawn from them indefinite and uncertain, so far as anything like the establishment of a historical order of separation is concerned. If it can be shown that Latin is most closely connected with Greek, it can, on the other hand, be shown that in many respects Greek is most closely connected with Sanskrit: and probably all that it is really safe to affirm is that the various dialects of the Indo-European family after a long continued community separated gradually, until under different circumstances they established their respective national independence.

² Hdt. ii. 33, iv. 49. He speaks of them as ἔξω τῶν Ἰρακληίων στηλέων, and (after a tribe called Κίνηται) ἐσχατοι πρὸς ἥλιου δυσμέων τῶν ἐν τῇ Εὐρώπῃ. His language is that of a man living on the shore of the Mediterranean, to whom all knowledge of these western countries came from people who had sailed *through* the Straits of Gibraltar, *outside* the so-called

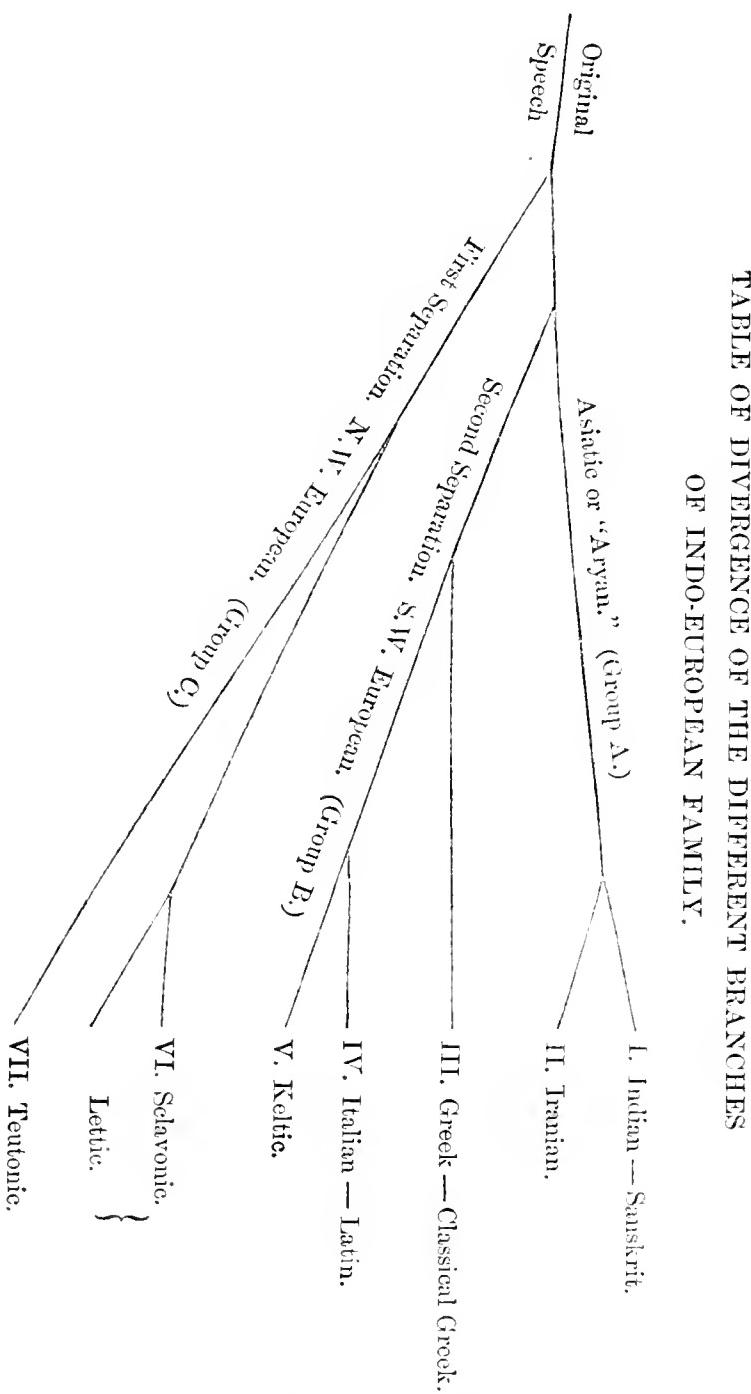
Switzerland and Tyrol; and, after occupying Gaul, Belgium, and Britain, were driven by pressure of the Teutons to the extreme north and west of Gaul and the British Islands, where their language has survived to our own day, though gradually disappearing (like Cornish) under the influences of increased communication with the mass of the English-speaking population. Some philologists, indeed, take a different view, and maintain that, looking to the *present* distance from the original home of the respective Indo-European nations, the Kelts must have been the *first*, and the Slavonians the *last* to move westward; and that the Slavonians, finding the rest of Europe occupied, were forced to make their new home in its northern and eastern regions. This *may* be so; but in the absence of history, language (which has been called ‘fossilised history’) is our best guide; and language seems to postulate a longer separation from the primitive stock in the case of the Teutonic and Slavonic groups than for any of the others.

The following diagram (adapted from Schleicher’s ‘Compendium’) will illustrate the successive migration and bifurcations of the Indo-European family—the separations being indicated by lines striking *downwards*, and the degree of separation or proximity by greater or less deflection from the uppermost line¹. The vertical order of the column to the right hand corresponds to the horizontal order of the previous Table.

‘Pillars of Hercules.’ For other examples of Herodotus’ relative use of terms ‘from a Mediterranean point of view,’ compare i. 6, ἐντὸς Ἀλυος ποτάμου: i. 74 (of the Halys), πέων ἄνω, and an instructive note to the latter passage in Woods’ edition (‘Catena Classicorum’ series).

¹ Schleicher’s diagram is possibly open to modification, in respect of the position assigned by him to Keltic. He believes in a ‘Graeco-Italo-Keltic’ period, marked by the division of the *a* sound into *a*, *e*, *o*, and (after the separation of the Greeks) in an ‘Italo-Keltic’ period marked by loss of aspirates, retention of spirants, and loss of the old middle voice; while finally, after separating from the Italians, the Kelts lost the ablative and reduplicated perfect. Other philologists, however, connect Keltic with the North European languages, tracing a general analogy (e.g. in the number of diphthongal sounds, being *four* in Keltic and Teutonic, but *six* in Hellenic and Italic dialects) between Slavonic, Teutonic, and Keltic. The arguments on both sides are briefly but clearly stated by Mr. Peile (*‘Introd.’* pp. 27, 28, 3rd edition), who inclines upon the whole to Schleicher’s view.

Relationship of Sanskrit, Greek, three first languages of which any considerable literature exists, and Latin.



mains are *Sanskrit*, *Greek*, and *Latin*, all ‘dead’ languages, embodied in their respective literatures, not subject to the

constant changes of spoken languages, and therefore retaining a more complete inflectional system than any other languages known to us, though even in them the inflectional system is already in a state of decay. These three languages thus form the basis of philological enquiry for the Indo-European branch of human speech; and for the illustration of the inflectional system of any one of them, the three together furnish all or nearly all the available data. It is important to understand clearly their relationship, as parallel branches of a common stock, in the same generation of the genealogical tree. They are sisters, or at furthest cousins; and are not in any sense derived from each other. Latin is not *derived* from Greek, neither is Greek or Latin *derived* from Sanskrit, in the sense in which the modern Romance languages are ‘derived,’ i. e. descended from, classical Latin. This relationship may be proved by internal evidence from any of the languages given in our Table. Thus Greek *ἀστρίς*, Latin *stella* (= *ster-ula*), German *stern*, English *star*, must be fuller and therefore older forms than Sanskrit *tārā*, in which the initial *s* has been lost¹. Or again, if we take the grammatical forms, e. g. of *εἰμί* [Sanskrit *asmi*, Latin *sum*], we shall find that in 1 sing. Latin *sum* retains the *s* of the root *as* (*εs*) which Attic Greek *εἰμί* has lost; in 2 sing. Aeolie Greek *ἐσ-σι* is more perfect than Sanskrit *asi*; in 1 plur. Greek *ἐσ-μεν* retains the full root *εσ* (*as*) as compared with Sanskrit *smaś*, while the Latin termination *-mus* (Sanskrit *-mas*) is older than Attic Greek *-μεν*, the older dialects preserving *-μες*: in 2nd plur. Latin *estis* is the most complete form, Greek *ἐστέ* the next, Sanskrit *stha* the most mutilated, having lost both initial and final letter; in 3 plur. Latin *sunt* (Sanskrit *santi*) is fuller than the oldest dialectical form in Greek [*ἐντί* Doric and Aeolic], from which the root *εs* has entirely disappeared—much more so than the still more weakened form *εισι*. The Teutonic languages retain a correspondingly stronger form than Greek, in German *sind*. French *sont*, Italian *sono*, Spanish *son*, are modifications of *sunt*. A similar comparison

¹ In the Veda is found a fuller form, *star* or *stri*.

of grammatical forms is employed by Professor Max Müller (Lectures, Series I. Lect. v), to refute the theory that French, Italian, and Spanish are derived from the Provençal language, which is, according to that theory, the only true ‘daughter’ of Latin. French *sommes*, *êtes*, *sont*, besides Provençal *sem*, *etz*, *son*, are justly pointed to as fatal to such a theory.

Evidences
of relation-
ship be-
tween lan-
guages.

It may be well to subjoin a few specimens of that correspondence between the Indo-European languages which is at once the evidence of their relationship and the basis of their classification into families. The evidence is twofold, (*a*) in vocabulary, (*b*) in grammatical structure.

(*a*) In vocabulary, it is easy to find in any two of these languages numbers of common words, and to prove them all related by proving each one related with each of the rest in succession—Latin with Greek, Greek with Sanskrit, Slavonic with German, and so on. But for words identical in all or nearly all branches of the family, we are restricted to such special classes of words as *numerals* and *pronouns*. These appear to have been less varied by multiplication and substitution of synonymous terms than any other class of words—except, perhaps, the terms indicating degrees of near relationship, *father*, *mother*, *daughter*, *brother*, etc.; and hence all the Indo-European nations, however widely separated, and however different in manners and civilisation, count with the same words and use the same pronouns in individual address; allowance, of course, being made for the changes brought about by the phonetic laws of individual languages.

(*b*) Stronger still is the evidence of correspondence in grammatical structure, as shown in a common system of word-formation, declension, and conjugation. This portion of language is that which, in the case of intermixture of languages, by the adoption into one language of terms belonging to another, most resists any trace of intermixture. A foreign word admitted to citizenship in another language is declined or conjugated on the system of the language which has adopted it; and the study of language offers no trace of a mixed grammatical apparatus in the same language. This being so, uniformity of grammatical

structure in a number of distinct languages must be one of the strongest proofs of their substantial unity.

The table on p. 20 exhibits specimens of the correspondence, in vocabulary and inflection, of the Indo-European languages:—

The most familiar illustration of a ‘class’ of languages, and on the whole the most instructive attainable example of dialectic growth, is to be found in the modern ‘Romance’ or ‘Romanic’ languages, so called as being all descended from the ‘*Lingua Romana*,’ spoken in the different provinces of the Roman Empire. In these we have not only a body of highly cultivated languages, each with its subsidiary dialects, and evidently sprung from a common stock ; but we have also, what we have not in the case of the great Indo-European group, the mother language; the ‘*Ur-sprache*,’ from which they have all sprung ; and we can trace historically, with tolerable accuracy, the processes of change and divarication which have produced them. They all rose about the same period of the Middle Ages, out of the condition of local *patois*, the result of illiterate provincial corruptions of the Latin of ordinary popular pronunciation, which even in classical times had differed in many respects from the literary dialect of Rome, and had degenerated still farther and faster when the decline of literature took away the only check upon arbitrary pronunciation and erroneous grammar. In the provinces upon which the Roman conquerors imposed the use of the Roman language¹, that language was subject in its use to all the innovations produced by ignorance, caprice, or the purely physical causes which dispose the vocal organs of different nations to different sounds. When therefore the various nationalities of modern Europe

¹ In Britain, though a Roman province for 400 years, the Roman civilisation was too partial (being confined to the towns) to leave its impress in the use of the Roman language, which in Gaul and Spain survived the conquest of those countries by Teutonic invaders. ‘What strikes us at once in the new England,’ says Mr. Green, ‘is that it was the one purely German nation that rose upon the wreck of Rome. In other lands, in Spain, or Gaul, or Italy, though they were equally conquered by German peoples, religion, social life, administrative order still remained Roman. In Britain alone Rome died into a vague tradition of the past.’ (*History of the English People*, ch. i. sect. ii.)

Table of Correspondence between Members of the Indo-European Family of Languages.

I. Sanskrit.		II. Greek.		III. Latin.		IV. Welsh (Celtic).		V. Slavonic.		VI. Teutonic.	
Numerals:			<th></th> <th></th> <th></th> <th></th> <th>Old Slav.</th> <th>Russian.</th> <th>German.</th> <th>Dutch.</th>					Old Slav.	Russian.	German.	Dutch.
1	ékas* (eka-)			unus		yedno	odin	an	een	one	ann
2	dva (dvā-)			dau		dova	twa	twa	twe	two	art
3	trayas (tri-)			tri		tria	tri	trei	trei	three	is
4	eatvaras (featur)			quintuor		kñóriye	threis	over	vier	four	are
5	pañca (pancam)			quinque		panté	piat'	liet	vijf	five	sind
6	shaft (shash)			sex		sesťe	sest'	timf	zes	six	soi
7	sapta (sapian)			septem		setmę	sestom	sechs	zeven	seven	est
8	ashthan (ashitan)			octo		osmę	osm'	sieben	syy	eight	sinde
9	nava (navan)			noven		devantę	deviat'	acht	otto	nine	soi
10	daca (daçan)			decim		desantę	desiat'	negen	ni	name	teu
Pronouns:				me		me	mja, menia	ach	mij	me	
1	pers. (ace. sing.)			tu		ty	mi-k	da	thou	thou	
2	pers. (nom. sing.)						thu				
Words:				máta (mátri)		mátha	moter†	mutter	modhair	mother	
				bliútā		bráthair	brot†	brüder	broður	brother	
				duilita		dant	dochter†	tochter	drottir	daughter	
				dantah (dat-)			dant††	tuntius	taut	taut	
Root YID (know)				veda			widati	toth	wit	wit	
GNA							zinti	enawan	kwaw	kwaw	
B.—INFLECTIONS [Verbal].											
Verb: I sing.				éiūt, éστι		yesmę	-m	yesi	(biu)		
2	"			éστι		yesi	-n	yesi	(biu)		
3	"			éστι		yesčo	-d	yesčo	(biu)		
1	p̄iur.			éσμεś, éστε		yesmo	-m	yesmo	(biu)		
2	"			éστε		reste	-d	reste	(biu)		
3	"			év-ri' (éστι)		somte	-t	somte	(biu)		
C.—LITERATURE.											
Literary Languages.				snn		esni	-m	yesmę	yesmę		
				es		esi	-n	yesi	yesi		
				simus		esti	-d	yesčo	yesčo		
				estis		estni	-m	yesmo	yesmo		
				sunt		este	-d	reste	reste		
						somte	-t	somte	somte		

N.B.—In the case of Noam Inflections the correspondence can only be fully traced in those 'dead' languages which are fixed and embodied in their respective literatures, viz., Sanskrit (and Persian), Greek and Latin (see p. 17). The analytical tendency of language has, generally speaking, as in English, substituted positions for inflections, the latter having become so worn down as to be unrecognisable. Even German, which has retained more than any spoken language of our own day its noun inflections, shows symptoms in the 'n-w' declension) of a tendency towards uniformity of all case forms except the nominative.

began to take shape and cohesion out of the chaos of the Middle Ages, the dialects of the Latin-speaking peoples, in what had been Roman provinces, had sufficiently diverged from each other to form the starting-point of so many distinct languages, each with its own national peculiarities, but with strongly marked traces of their common origin—in vocabulary, in inflection, and in grammatical structure—running through them all. The following brief summary, given by Professor Whitney ('Life and Growth of Language,' pp. 183, 4), enumerates the Romanic group with sufficient precision :—'Fragments of French are the oldest, coming from the tenth century; its literature begins one or two centuries later; the earliest Italian, Spanish, Portuguese, are from the twelfth, or hardly earlier. These four are the conspicuous modern members of the group. But there was also, in the eleventh to the fourteenth centuries, a rich literature of the chief dialect of Southern France, the Provençal, which, except for a recent sporadic effort or two, has ever since been unused as a cultivated tongue. There exists, too, in the northern provinces of Turkey, in Wallachia and Moldavia, a broad region of less cultivated Romanic speech, witnessing to the spread of Roman supremacy eastward: it is destitute of a literature. Moreover certain dialects of southern (S. and S. E.) Switzerland are enough unlike Italian to be ordinarily ranked as an independent tongue, under the name of Rhaeto-Romanic or Rumansh.' This last is the dialect spoken in the Grisons, and met with by English travellers in the Engadin.

Full materials for the philological study of the Romanic languages are available in the 'Grammatik der Romanischen Sprachen' of Professor Diez¹, than which (says Professor Max Müller) 'nothing can be a better preparation for the study of the comparative grammar of the ancient Aryan languages.' Subjoined is a table (compiled from this work) of comparative forms in the six languages examined by Diez (viz. those above-mentioned with the exception of Rumansh); these languages

¹ A French translation of Diez' Grammar is better arranged than the original, and contains additional matter supplied by Prof. Diez himself and incorporated by the translators.

being placed in the order of (upon the whole) nearest resemblance to the Latin original. The evidence of relationship needs no further comment ; and it must be borne in mind that the relationship to each other of the various branches of the Indo-European family is precisely analogous to that of these Romanic languages to each other ; and that the evidence for it in the two cases is different not in kind, but only in degree, in proportion as the divarication of dialects has in the one case been wider and longer, and historical observation of their phenomena less attainable.

The transmutation of Latin into its derivative languages, illustrated by the table on pp. 24, 25, exhibits certain features of change from ‘analytic’ to ‘synthetic’ languages, the germ of which can be traced even in classical Latin. We shall have occasion, in treating of changes and modifications of sounds (chap. iv), to notice the course of changes in the form of words, which are constantly at work in every spoken language, and the laws of phonetic change following the universally observed tendency to secure ease in articulation at the expense often of clearness. The formative suffixes of nouns and verbs—*Inflections*—were the parts which were first affected. Originally distinct elements with a meaning of their own, and a clear etymological connection with important elements of the language, especially the pronouns, they have become in the language of Cicero and Virgil so far worn away as to appear in many cases mere unmeaning terminations in the written language, and in all probability still less recognisable in popular pronunciation of everyday life. This rubbing away of the distinctive suffixes by which grammatical relations were expressed, naturally led to difficulties in retaining the right discrimination, e. g. of case and tense, and to substitution of other expedients for expressing such distinctions.

(i.) *Case inflections gave way to prepositions.* This process is gradually at work in all languages, from the earliest stage, which is the richest in inflections. As the *analytical* tendency of language (getting rid of inflections and substituting separate words for each part of a conception) advances, prepositions are

more and more developed to give precision to the obliterated forms and extended meanings of case-endings. In Greek and Latin (as the form of many of them indicates) they were originally *adverbs*, serving to define more clearly the meaning which belongs to the case-ending by itself: and as the requirements of language become more complicated, they become more and more necessary to distinctness and accuracy in language. Hence they are often used in prose where they would be omitted in poetry¹; and it is always the case which determines the meaning of the preposition, not *vice versa*.

In modern Greek, and in the derivatives of Latin, prepositions have almost superseded cases; and the growing tendency to use them appears in the New Testament, where they are far more numerous than in classical Greek²; and in e.g. the practice of the Emperor Augustus³, who made use of them in order to speak as clearly as possible. We are told that he preferred to say ‘impendere *in aliquam rem*,’ ‘includere *in carmine*’ (instead of ‘*alieni rei*,’ ‘carmine’). The tendency is found often enough in earlier times, e.g. ‘*ad earnificem dare*’ (Ter.), ‘*Fulgorem reverentur ab auro*’ (Virg.).

(ii.) From the difficulty of retaining distinctions of tense comes the use of active *auxiliary verbs*. In the passive voice *sum* was always so employed; and traces of a similar use, e.g. of *dare*, are found in phrases like *inventum dabo*, Ter. And. iv. i. 59, *vasta dabo=vastabo*, Virg. Aen. i. 63; ix. 323. *Habere* and *tenere* (*avoir, avere*; Spanish *tengo, tenere*) must have been so used in the provincial speech of the later Empire; we have perhaps an anticipation of this in the classical *expertum, cogni-*

¹ e.g. *ab, ad*, with ablat. or accus. of motion; or *ab* with ‘ablativus agentis.’

² e.g. ἐσθίοντις ἀπὸ τῶν ψιχίων, ‘eat of the crumbs,’ where classical Greek would employ the ‘partitive genitive’ alone. See Farrar’s Greek Syntax, pp. 86, 87.

³ ‘Praecipuum curam duxit sensum animi quam apertissime exprimere; quod quo facilius exprimeret, aut nec ubi lectorem vel auditorem turbaret et moraretur, nec prepositiones verbis addere, neque conjunctiones iterare dubitavit, quae detractae afferunt aliquid obscuritatis etsi gratiam augent.’ Suetonius, ‘Vita Octaviani,’ lxxxvi.

N.B. The last words of this quotation recognise the fact that analytic languages gain in accuracy what they lose in conciseness.

TABLE OF CORRESPONDENCE BETWEEN

<i>Words and Forms Compared.</i>		<i>Latin Original.</i>	<i>I. Italian.</i>	<i>II. Spanish.</i>		
Article.	Nom. S. Gen. S. Nom. Pl.	ille, -a (used in late provincial Lat. as Article)	il ^l , lo (mase.), la (fem.) del, dello, della i, gli, le	el, la, lo (neut.) del, de la, de lo los, las		
Declension.	Nom. S. Nom. Pl.	{ corona, -æ } { annu-s, -i } { flos, flores }	coron-a, anno, fior-e coron-e, anni, fior-i	coron a, añ-o, flor coron-as, añ-os, flor-es		
Numerals.	1 2 3 1000	unus, -a duo tres mille	uno, una due tre mille, pl. mila	uno, una dos, duas tres mil		
Personal Pronouns.	Nom. S. Nom. Pl. Gen. Pl.	ego, tu, ille nos, vos, illi { nostrum } { illorum }	io; tu; egli, ella noi; voi; eglieno, elleno di noi, voi; loro	yó; tu; el, ella, ello nos; vos; ellos, ellas		
Verbs.	Pres. Indic. Imperfect Prete- rite { 1S. 2S. Plur. Subj. Gerund Infinitive	Sing. 1 " 2 " 3 Pl. 1 " 2 " 3 cantare cantabam cantavi cantasti cantassem cantando cantare	canto cant-i-s cant-a-t canta-mus canta-tis canta-nt canta-bam canta-vi cantasti cantassem cantando cantare	cant-o, cant-i, cant-a, cant-a-mo, cant-a-te, cant-a-nt cantámo, cantáva, cantai, cantasti, cantassi, cantando, cantare,	vend-o vend-i vend-e vend-iamo vend-ete vend-omo vendéva vendéi vendestí vendessi vendendo vendere	canto, vendo canta-s, vend-es canta, vend-e cantamos, vend-emos cantais, vendeis cantan, venden cantaba, vendia canté, vendi cantaste, vendiste cantase, vendiese cantando, vendiendo cantar, vender
Auxiliary Verbs.	used in active voice used in passive voice	{ habeo habemus { sum sumus }	ho cantato abbiamo cantato sono stato siamo state	he cantado hemos cantado soy cantado somos cantados		

1 il, lo are the two syllables of *ille*.

THE 'ROMANIC' LANGUAGES DESCENDED FROM LATIN.

III. Portuguese.	IV. Provençal.	V. French.	VI. Wallachian.
o (masc.), a (fem.) do, da os, as	lo, la del, de la li, las	le, la (Old F. li) du, de la („ del) les, les	-l, -le (suffixed) a ⁴ — lui „ i
coro-a, anno, flor coro-as, anno-s, flore-s	coron-a, ans, flor-s coron-as, an, flor	couronne, an, fleur couronne-s, an-s, fleur-s	coron-e, an, floare corone, an-i, flor-i
hum, huma dous, duas mil	uns, una dui, duas trei, tres mil, pl. mila	un, une (Old F. nns) deux („ dous) trois („ treis) mille („ mil)	un, una (o) doi (doo, doas) trei mie, pl. mii
eu; tu; elle, ella nos; vos; elles, ellas de— — ; delles, dellas	ieu; tu; elh, elha nos; vos; elhs, elhas de— — ; de lor	je; tu; il, elle nous; vous; ils, elles de— — ; d'eux, d'elles	eu: tu; el, ia noi; vo; ei, ia-le alnostru, vostru; alor
canto, vendo cantas, vendes canta, vende cantamos, vendemos cantais, vendeis cantão, vendia cant-ava, vendia cant ei, vendí cant-aste, vendeste cantasse, vendesse cant-ando, vend-endo cant-ar, vend er	chant-i, vend-i chant-as, vend-es chant-a, vend chant-ám, vend-ém chant-atz, vend-ctz chánt-an, vén-d-on chantava, vendia chantei, vendei chant-est, vend-est chant-es ² , vend-es chant-an, vend-en chant-ar, vend-re	chante, vend-s chant-es, vend-s chant-e, vend chant-ons, vend-ons chant-ez, vend-ez chant-ent, vend-ent chantais, vend-ais chant-ai, vend-is chant-as, vend-is chant-asse, vend-isse chant ant ³ , vend-ant chant-er, vend-re	cunt, vind cunt-zi, vinz-i cunt-é, vind-e cunt ém, vind-em cunt-atzi, vind etzi cunt-é, vind cunt-ám, vind-eam cunt-ai, vind-ui cunt-asi, vind-usi cunt-ásem, vind ísem cunt-und, vind-und cunt-à, vind-e
tenho ¹ cantado temos cantado so cantado somos cantados	ai chantat	ai chanté avons chanté suis chanté sommes chantés	am cunitat au cunt

¹ i. e. *tengo*. Spanish also uses the corresponding *tengo* as an auxiliary.² A fuller form is retained in 2 sing. *chantesses*, and in plur.³ In phrases like *en voyant*.⁴ The preposition before, the article after the noun.

tum habeo. The passive auxiliary construction with *sum*, etc. is obtained by an easy resolution of any tense in that voice: but the propriety of the active *habeo* or *teneo* is not so obvious. It may, however, have been extended by analogy from cases in which such analysis was correct to others in which it could not be so employed with strict accuracy.

(iii.) Next to these changes, founded on pronunciation and on the substitution of prepositions and auxiliary verbs for noun and verb inflections, the usage of the definite and indefinite article seems the most considerable step in the transmutation of Latin into its derivative languages. The development of the definite article from a demonstrative pronoun, which is seen in the Romanic forms *il*, *lo*, etc., derived from Latin *ille*, took place in Greek at an early period, but within historical observation¹; for we see it beginning in the Homeric poems in the use of the form δ as demonstrative, but in certain collocations suggesting its later use as definite article, e.g. $\eta\ \delta'$ $\alpha\rho'$ $\alpha\mu\epsilon\iota\beta\epsilon\tau\omega\ \Pi\alpha\lambda\lambda\alpha\sigma\ '\Alpha\theta\iota\rho\eta$, etc. The Greek language thus gained an important element of precision, and facility for the combination and grammatical handling of abstract ideas, e.g. by the article with infinitive or neuter adjective; and though little or no attempt seems to have been made in the literary dialect of Rome to create a corresponding means of precision by an analogous employment of the Latin demonstrative pronoun, there are not wanting signs that the necessity for it was felt and partly acted upon in popular language, by the employment of *ille* and *unus* with the force of a definite and indefinite article respectively². Were this not the case, the evidence of the Romanic languages would be sufficient proof that, at all events in the provincial idioms of the later Empire, this usage had become more or less established. The same development of

¹ On the history and usages of the Greek article see Curtius' Greek Grammar, §§ 365–391; Clyde's Greek Syntax, §§ 3–9. The latter book is a very valuable aid to the student of Greek grammar.

² The theory of grammarians in this matter seems to have gone contrary to the practice of those who spoke and used the language. Quintilian (I. O. i. 4. 19) says, ‘Noster sermo articulos non desiderat;’ and Scaliger called the article ‘otiosum loquacissimae gentis instrumentum,’ ‘articulus nobis est nullus et Graecis superfluus.’

definite article from demonstrative seems to have taken place in the Teutonic languages; for in German *der* (like *ðs*, *ð*) is demonstrative, relative, and definite article; and in English *that* and *which* are often interchangeable.

For further suggestions upon the relation of the Romanic languages to Latin, the reader may consult Max Müller's Lectures, Series I. Lecture v, and Hallam's Middle Ages, chap. IX. part I.

CHAPTER III.

CLASSIFICATION OF SOUNDS.

THE division of sounds and of the letters representing them in the alphabets of different languages, according to the organs of the human voice by which the sounds are produced, is the basis upon which enquiries into the mutual connection of languages, and all etymology, must ultimately rest. In tracing the original form or the common element of words or their inflections in one or more languages, we are retracing the course of ‘phonetic change;’ the changes i. e. in the sounds and the letters representing them, by which, while languages are in daily use as media of oral communication, variety or degeneration from simple and primitive forms has been produced. The principle of this phonetic change is the endeavour, conscious or unconscious, to secure *ease of articulation*. ‘All articulate sounds are produced by effort, by expenditure of muscular energy in the throat, lungs, and mouth. This effort, like every other that man makes, he has an instinctive disposition to seek relief from, to avoid: we may call it laziness, or we may call it economy: it is in fact either the one or the other, according to the circumstances of each particular ease. It is laziness when it gives up more than it gains; it is economy when it gains more than it abandons.’

Ease of articulation is secured in the majority of cases by substituting a sound easier to pronounce for one which is found difficult—a *weaker* for a *stronger* sound: and (with some few exceptions) it is a safe rule in etymology that harder sounds are

not derived from easier, nor a word which has retained a strong sound from one which exhibits a correspondingly weak sound ; nor, therefore, a language in which individual forms retain strong sounds from a language whose corresponding forms retain weaker sounds. Thus (to take a simple instance) such forms as *silva*, *sus*, *video*, *vinum* beside $\tilde{\imath}\lambda\eta$, $\tilde{v}s$, $\tilde{i}\delta\epsilon\tilde{\imath}v$, $\tilde{o}\tilde{w}os$, go far to prove what has already been demonstrated upon the evidence of inflections (above, p. 17), that Latin cannot have been derived from Greek, having retained in these words the sounds *s* and *v* (\tilde{F}), which Greek has lost, or represents only by an aspirate.

But what are *hard* or *strong*, and *easy* or *weak* sounds ? and how is the relative strength of sounds determined ? Obviously by the physical conditions of their utterance. *Hard* sounds are those which require greater physical effort on the part of the organs of speech, *easier* sounds those which require less effort. The table given on p. 31 exhibits the sounds arranged according to the physical conditions of their production : and without a minute investigation of those physical conditions (for which the student is referred to Max Müller's Lectures, Series II. Lect. iii. on 'The Physiological Alphabet'), a brief statement of them is necessary for the explanation of the terms employed.

The material of speech is breath, i. e. a continuous stream of air from the lungs, modified by the different positions, or interrupted and compressed by various actions of the uvula, tongue, palate, teeth, and lips, which thus become organs of voice¹. If the *glottis*, or aperture through which the breath

¹ For a fuller description of the instruments of the human voice, see Max Müller's Lectures, Series II. Lect. iii. (pp. 109–114, 2nd ed.), and Farrar's 'Chapters on Language,' ch. vii, pp. 84, 85 : 'When we are speaking we are in reality playing on a musical instrument, and a more perfect instrument than ever was invented by man.' 'The larynx, with its cartilages and muscles, forms, in point of fact, a combination of musical instruments; it is at once a trumpet, an organ, a hautboy, a flageolet, and an Aeolian harp. The air passing upwards and downwards through the larynx and trachea forms its analogy with the wind-instruments; the vibration of the *chordae vocales*, its resemblance to the stringed.' See also Dr. Carpenter's 'Animal Physiology,' p. 528; Whitney, 'Life and Growth of Language,' ch. iv. p. 59; Sayce, 'Introd.' I. ch. iv (on Phonology and Sematology).

passes from the *trachea* or windpipe, be fully open, what passes into the mouth is mere breath, made afterwards into sound by the organs of the mouth. If however two ligaments at the sides of the glottis, called *chordae vocales*, approximate to each other so as to narrow the glottis, and vibrate as the breath passes through, this vibration changes the breath into *voice*—makes it vocal sound. And according as mere breath, or vocal sound, is emitted from the windpipe, the same position of the organs of the mouth gives a different result. If it be only *breath* that is checked or modified by their contact or approximation, the sound produced will be what is variously called *tenuis*, ‘hard’ or ‘surd’: if, on the other hand, *voice* or vocal sound be checked by contact or approximation of the organs, the sound produced will be *media*, ‘soft’ or ‘sonant.’

Sounds are divided generally into *Vowels* and *Consonants*. The physiological difference in their formation is as follows:—

Modification of the stream of vocal sound, without interruption or compression by the organs of the mouth, produces *Vowels* (*vocales*, *φωνήεντα*), so called because they have a sound of their own, being various modifications of the vocal sound produced by the ‘*chordae vocales*.’ All vowels, therefore, are ‘soft’ sounds.

Interruption of breath or voice by complete contact, or compression by approximation of the organs, produces *Consonants* (*con-sonantes*, *σύμφωνα*), so called because they have no sound of their own, but must be accompanied with a vowel sound¹. (Thus, in the Sanskrit character the vowel *a* is never written after a consonant, because *a*, the primitive vowel sound, is supposed to be inherent in every consonant.) Consonants are either ‘soft’ or ‘hard,’ *tenuis* or *mediae*.

The subjoined table illustrates the classification of Sounds as applicable to Greek and Latin:—

(The Greek and Latin characters are given.)

¹ The Arabic Grammarians call a vowel *motion*, and a consonant a *barrier*, because in forming vowels the voice is not interrupted, whereas in forming consonants it is stopped at certain fixed positions.

TABLE IN ILLUSTRATION OF THE CLASSIFICATION
OF SOUNDS.

	MUTES 'Explosive' Sounds.				SEMIVOWELS: 'Fricative' Sounds.				VOWELS.	
	Tenuis.		Aspirate Tenuis.		Spirants.		Liquids.		Primary.	Secondary.
	Tenuis.	Media.	Nasal.		Tenuis.	Media.				
Guttural	κ c k q	γ g	χ	γ ¹	‘ h	’			a a	{ e η e
Palatal						i (j)			t i	{ o a o
Dental	τ t	δ d	θ	ν n	σ s	ζ z	λ ρ l r			
Labial	π p	β b	φ	μ m	f	F v			v u	

(*f* and *v* are sometimes classed separately as 'Labio-dentals,' being formed by contact of under lip and upper teeth.)

N.B. In Latin, *c*, *g* represent the hard sound of *κ*, *γ*: *i* (*j*) semivowel, the sound of English *y* in *you*: *v* (and Greek *F*) that of English *w*.

The vowels in Greek and Latin are pronounced nearly as in Italian. (Cp. the table of the Greek and Roman alphabets, p. 42.)

[Sanskrit, besides the sounds expressed in Greek and Latin, has letters expressing—

'Palatal' mutes, ten. and med. [c ch]; spirant [ç]; nasal [ñ]

'Cerebral'² „ „ „ [t̄ d̄]; „ [sh]; „ [n̄]

(These sounds are varieties of guttural and dental respectively.)

A complete set of aspirated mutes, tenues, and mediae; e.g. kh, gh; ch, jh; etc.

Short and long sounds of all the vowels, + the dental vowel sounds ri, li.]

¹ e.g. in ἐγγύς, ἀγγελος.

² Also called 'Cacuminal.'

Classification of Consonants—
I. Mutes and Semi-vowels.

Consonants are classified¹ (see the Table, p. 31)—

I. By the completeness or incompleteness of contact of the 'vocal organs.'

a. *Mutes* (*ἄφωνα, mutae*), where there is a complete interruption of the passage of the breath or vocal sound. These are 'Consonants' proper, having no sound of their own, and depending for articulation upon the vowel sound which follows when the stream of breath or vocal sound is released from the 'check' or interruption. They are sometimes called 'Momentary' or 'Explosive' sounds [*kg, td, pb*].

b. *Semicowels*² (*ἡμίφωνα, semi-vocales*), where the stream of vocal sound is not interrupted by complete contact, but only compressed by approximation of the 'vocal organs,' so that a continuous sound is heard from the friction of the breath or vocal sound against the partially closed organs. They are sometimes called 'Continuous' or 'Fricative' sounds [*s, z, l, r, f, v*, etc.].

II. *Tenues* and *Mediae*.

II. By the accompaniment or absence of vocal sound. (See above, pp. 29, 30).

a. *Tenues*³ (*ψιλά*, 'voiceless:' also called 'sharp,' 'hard,' 'surd'), when the contact or approximation of the organs takes place with the *vocal chords* (see above, p. 29) wide apart, so that only a whisper takes place [*k, t, p, s, f*].

b. *Mediae*⁴ (*μέσα*, 'voiced,' also called 'flat,' 'soft,' 'sonant'), when the contact or approximation of the organs takes place with the *vocal chords* close together and vibrating so as to cause sound⁵ during the approximation or contact [*g, d, b, z, v*, etc.].

¹ The teacher will find the comprehension and recollection of these classifications and the terms employed much facilitated by oral illustration, pronouncing himself, and asking his pupils to pronounce, each sound as it is mentioned.

² For the more limited use of this term, see below, p. 35, note 2.

³ *κ, τ, π* were called *ψιλὰ γράμματα* ('bald,' 'slight,' or 'thin letters') by the Greek grammarians in distinction from the *aspirates* *χ, θ, φ*, which had a rough or shaggy sound. Hence *ψιλῶς γράφειν* = to write with a *tenuis* instead of an *aspirate* (*ράπτυς* for *ράφυς*), Ath. 369 B.

⁴ The *mediae* (*μέσα*) *γ, δ, β* were so called because they were pronounced by the Greek grammarians with more aspiration than the *tenues* and with less than the *aspirates*.

⁵ On the general causes of the distinction between *tenues* and *mediae*,

III. By the part of the mouth at which, and the ‘vocal organs’ between which the contact or approximation takes place.

III. Guttural, etc.

a. *Guttural*, by the back or soft palate (uvula) and root of the tongue [*k, g*].

b. *Palatal*¹, by the middle or hard palate and the tongue (i. e. the guttural ‘check’ or contact pushed a little further forward).

c. *Dental*, by the upper teeth and front part of tongue [*t, d*].

d. *Labial*, by the lips [*p, b*], or under lip and upper teeth [*f, v*].

The latter are sometimes classed separately as *Labiodental*.

Somewhat outside of I. and III. come *Nasals* and *Liquids*.

Nasals are a variety of Explosive Mediae: i. e. when the organs are in position for pronouncing *g, d, b*, but the stream of breath passes into the nose, *ng, n, m* are respectively produced. Accordingly, if we try to pronounce *n* or *m* either holding the nose, or when it is stopped by a cold so that the breath cannot pass that way, the result is the original sound of *d* or *b*, e. g. *moon* becomes *bood*².

Liquids (‘lingual’ sounds or ‘trills’) are caused by the breath passing over the sides of the back of the tongue [*l*], and over the

see Prof. Helmholtz, as quoted by Max Müller, Lectures, II. iii. p. 131, 2nd ed. The terms ‘surd,’ ‘sonant,’ adopted by Professor Whitney (‘Life and Growth of Language,’ p. 63) and Mr. Sayce (Introd. I. p. 265), are preferable to the more commonly used ‘hard’ and ‘soft,’ as being expressive of actual facts.

¹ The various consonantal sounds which in Sanskrit and other languages are called *palatal* are formed by placing the tongue in a position intermediate between the guttural and dental contact, and are modifications, sometimes of gutturals, sometimes of dentals. In Sanskrit they approach nearer the former, and are often represented, the tenuis by English *c, ch* (in *church*, or Italian *cielo*), the media by *j* (i. e. as in our pronunciation of *German, George*). Many Sanskrit scholars, however, prefer to denote the palatal series by the guttural signs, *k, kh, g, gh*, modified either by ‘(*k', k'h*) or by difference of type (*k, k'; g, g'*), because this helps them to show the easy transition between e.g. nom. वाक् (vâk) and वाच् (vâc) the stem of the oblique cases.

² The following stanza from a *jeu d'esprit*, entitled ‘The Lay of the Influenzed,’ may serve as an illustration of this:—

‘Dever bore bedeath the bood
Shall byrtle boughs edtwide;
Dever bore thy bellow voice
Bake belody with bide.’

This is incorrectly termed ‘speaking through the nose.’ A person who has a cold ought to speak through his nose, but cannot do so, in pronouncing *m* or *n*: and therefore he sounds nearly *b* or *d* in attempting to pronounce the nasals *m, n*.

tip of the tongue [r]. They may be classed with Semivowel [Fricative] sounds, to which they have most affinity.

Aspirates.

Aspirates are variously classed with ‘explosive’ and ‘fricative’ sounds. The sound denoted by *h* (*spiritus asper*¹) is a mere expulsion of breath², unchecked by the vocal chords, which remain wide apart without vibrating so as to produce vocal sound. This ‘breathing’ (to adopt the term familiar in Greek grammar), when it follows an explosive consonant, gives such sounds as Greek χ ($k+h$), θ ($t+h$), ϕ ($p+h$). In pronouncing the tenues *k*, *t*, *p*, the vocal chords are apart and in a natural position for aspiration : but with the mediae *g*, *d*, *b* they are close together, and not in position for aspiration. Hence *gh* (*g+h*), *dh* (*d+h*), *bh* (*b+h*) are more difficult sounds, which perhaps existed in the earliest forms of Indo-European speech, but have only found expression in the Sanskrit and (to a certain extent) in the Keltic languages.

The slight sound or ‘breathing’ heard before any vowel, and best caught when two vowels come together (e. g. *go over*), is rarely expressed by any sign, except in Greek by the *spiritus lenis* or ‘soft breathing.’

If the breath emitted for *spiritus asper* or *lenis* be modified by certain narrowings of the mouth forming barriers which hem it in, various distinct sounds are produced. Eight such ‘barriers,’ with corresponding modifications of the *spiritus asper* and *lenis*, are enumerated by Professor Max Müller; of which only those for which signs are given in our table of sounds are here given, viz.

¹ The distinction between *spiritus asper* and *lenis* is regarded by Prof. Max Müller as that which is denoted in consonants by the terms *tenuis* and *media*, the glottis being in one case open, in the other closed. The Greek terms are $\pi\nu\epsilon\hat{\nu}\mu\alpha\ \delta\alpha\sigma\nu$ (‘rough breath’), and $\pi\nu\epsilon\hat{\nu}\mu\alpha\ \varphi\iota\lambda\acute{o}\nu$ (breath free from roughness—a merely negative definition).

² Others, however, regard *h* as a genuine consonant, produced very near the glottis, so that it combines very readily with a following vowel, and seems to be produced in the same act of enunciation. Mr. Feile, holding this view, thinks ‘that there may be a soft *h* which differs from the ordinary *h* almost as much as any soft consonant from the corresponding hard ; and that this soft *h* differed infinitesimally (if at all) from the breath heard after the momentary sound in the original aspirates (*gh*, *dh*, *bh*).’—‘Introduction,’ pp. 69–73.

1. The barrier produced by advancing the tongue towards the teeth modifies *spiritus asper* into *s*, *spiritus lenis* into *z*.

2. If the lower lip be brought against the upper teeth, the barrier produced modifies *spiritus asper* into *f*, *spiritus lenis* into *v*, as heard in English *live*, *halve*. Hence *f*, *v* are sometimes called ‘Labio-dental’ sounds.

3. If the lips be slightly contracted and rounded, *spiritus asper* becomes *wh* in *wheel*, *which*; *spiritus lenis* the English *w*, which is apparently represented by Greek *F* and Latin *v*.

These sounds, *s*, *z*, *f*, *v*, etc., are called *spirants*. This name and Spirants. the physical fact which it denotes (that the sounds so called are modifications of the ‘breathings’), will at once suggest the explanation of such phonetic varieties as *sedes*, *ἔδος*; *sus*, *ὕς*; *sub*, *ὑπό*; or the correspondence of Latin *f* to various aspirate sounds in Greek, e.g. to *φ*, *χ* (*χολή*, *fel*) ; to *θ* (*θῆλυς*, *femina*, *θηρ*, *fera*) ; and to ‘, originally *F*, in *ριγέω*, *frigus*.

VOWELS AND DIPHTHONGS¹.

1. The three primitive vowel-sounds are *A*, *I*, *U*, (pronounced Vowels: A, I, U. as in Italian). Of these *a* is formed nearest to the *guttural* point of contact (with the lips opened wide); *i* nearest to the *palatal*; *u* nearest the *labial* contact, the lips approaching each other.

i and *u* pass into the cognate consonantal (or semivowel²) sounds of *y* and *v* (*w*).

a can pass into no cognate consonantal sound: it is *the vowel par excellence*, occurring in Sanskrit³, and probably in the earliest form of Indo-European language, much oftener than *i* or *u*.

¹ For a more elaborate analysis of vowel-sounds than appears necessary to give here, see Peile, *Introd.* pp. 90–100 (3rd ed.): also Bell, ‘Principles of Speech,’ and ‘English Visible Speech for the Million.’

² ‘Semivowel’ is here used in the limited sense, which often attaches to it, of the consonantal sounds of *i*, *u*. The reader will take note that it has been applied above (p. 32) in a wider sense to the whole class of ‘Fricative’ consonants, as distinguished from Mutes or Consonants proper. To avoid confusion it would be better either to describe the *y* and *w* sounds as *i* and *u* consonantal, or to give up the wider application of the term to Fricative consonants, but the inconsistency of usage is too confirmed.

³ In Sanskrit *ā* following a consonant is never written, because it is supposed to be inherent in every consonant (e.g. *patara* is written *ptr*); and the Sanskrit alphabet, which has two separate characters for each vowel-sound according as it is initial or in the middle of a word, has no character for *ā* medial.

E. O.

2. *E* and *O* are phonetic variations of the *A* sound¹. If we compare kindred words in Sanskrit, Greek, and Latin, we find that Sanskrit *a* is represented by *a*, *ε*, *o* in Greek, by *ă*, *ĕ*, *ŏ*² in Latin, e. g. Sanskrit *navas*, Greek *νέ(θ)ος*, Lat. *novis* = (*novos*) ; *pitā(r)*, *πατήρ* (= *πάτερ-s*), *pater* ; *bharāmi*, *φέρω* (= *φέρω-μι*), *fero*. In some cases the variety secured by this weakening of *a* has been turned to account, to indicate differences of meaning ; thus Sanskrit *padas*, which is gen. sing. and acc. plur. of *pad*, a foot³, becomes in Greek *ποδός*, *πόδας* ; the Greek thus gaining in distinctness what it loses in strength of sound.

3. When two vowels follow one another so rapidly as to melt Diphthongs. into one sound we get a *diphthong*. Of the primary vowels *a* alone can thus form the basis of a diphthong ; for *i* and *u*, if a vowel-sound follows, pass into the ‘semivowel’ sounds of *y* and *v*. *e* and *o*, being varieties of *a*, can also serve as ‘diphthongal bases.’ We thus get as diphthongal sounds, in Greek *ai*, *au*, *ei*, *eu*, *oi*, *ou* ; in Latin *ai*, *au*, *ei*, *eu*, *oi*, *ou* : though, for reasons which will appear afterwards, the Latin diphthongs, with the partial exception of *au* and *eu* in a few words, became weakened to the simple sounds *æ* (*ē*), *ō*, *ī*, *ū*, *œ* (*ē*), *ū*, and we must go back to the archaic remains of the language for such forms as *aidilis*, *deicere*, *foidus*, *joudex*.

4. Another vowel-sound is sometimes added, viz. the indefinite or neutral sound (‘original vowel,’ ‘Ur-laut,’ ‘Ur-vocal’), variously defined as ‘the natural vowel of the reed,’ ‘the voice

‘Original vowel.’

¹ The Indic. single vowel *ă* is supposed by some philologists to be the result of a coalescence of three primitive vowel-sounds, which are denoted (e.g. by Brugman) by the symbols *a¹*, *a²*, *a³*. See Sayee, Introd. i. p. 309.

² The vowels are originally *short* in quantity (as e.g. in most roots), lengthening being generally the result of ‘vowel intensification,’ as in *dūco* (root *dūe-*), or contraction, as *amās* = *ama-is*. Vowels which are *naturally* long must be distinguished from vowels which are *naturally* short, but long by position, e.g. *ārma* (*ă*), *uōx* (*ō*). In speaking of vowel-sounds generally we mean (unless otherwise specified) *ă*, *ĕ*, *ī*, *ŏ*, *ū*.

³ The accent and quantity of the stem vary in Sanskrit, (*padás*, *pádas*, *pádas*) ; and the vowel was perhaps modified in pronunciation (see note on p. 6). Accent in Sanskrit is only marked in the Vedas ; but it is sometimes desirable to mark it in transliteration, for the light which it throws upon Greek accentuation. See, for instance, Max Müller, ‘Selected Essays,’ vol. i. p. 142, on *iμεραι*, *iέραι* : and below, chap. vi, on the Vocative Singular.

in its least modified form,' etc. This is the sound heard in such words as *but, dust*; and it has been said that in such words as e. g. *spurt, assert, bird, fatal, dove, oven, double, blood*, but one and the same indefinite vowel-sound is heard. However this may be, there is no doubt an indefinite sound to which *unaccented vowels* in most modern European languages have a tendency to return, e. g. in the last syllable of *beggar, nation, Paddington*, German *lieben*; or the first syllable of French *tenir*. Physically, it appears to result from leaving the tongue in its most natural position, opening the mouth easily and emitting vocal breath; and it approaches the sound of all the vowels. It is this indistinct vowel, combined with *r* and *l*, that produces the Sanskrit vowel-sounds *ri* and *li* (*ṛi, li*).

It should be borne in mind that *sounds* are distinct from the signs used to represent them, i. e. the *letters*. The number of possible articulate sounds is greater than any nation ever employs; and the ‘alphabet’ of some languages will express sounds which that of others does not. Again, the use of letters in time reacts upon sounds. They do not always fit each other exactly to start with; and while pronunciation is always changing, spelling in a literary language becomes more or less fixed. Thus in time letters become symbols of other sounds than those proper to or originally denoted by them, and carry their new sounds into other words or other languages. For example, in the Roman alphabet, which is common to most nations of modern Europe, *c, g* representing to a Roman of the classical period the hard sound of *k* or Greek γ^1 before *all* vowels, in the pronunciation of the later Empire and in the languages of modern Europe came to signify different sounds before the vowels *i, e*; and these new sounds are carried back by each nation into their pronunciation of classical Latin, leading to such anomalies as the identical pronunciation of *secus* and *caecus*, or the different pronunciations of *locus, loci, loco*, parts of the same word. Again, *j* and *v* in Latin, the modern repre-

¹ The evidence for this statement as to the pronunciation of *c, g* will be found summarised in Roby’s ‘Latin Grammar,’ vol. i. Preface, pp. xlili-lii, or Wordsworth’s ‘Fragments and Specimens,’ Introd. ch. iii. §§ 22-28.

sentatives of consonantal *i* and *u*, have acquired, and carry back with them into the modern pronunciation of consonantal *i* and *u* in Latin words, quite different sounds from those of our *y* and *w*, which are in reality much nearer representatives of the sounds in question. Whatever, therefore, may be the practical value to modern nations, in reading or pronouneing a dead language, of attempts to reproduce the ancient pronuncieation, it is of the utmost importance, for philological and etymological enquiry, to realise as accurately as we can *what sounds*, in the mouths of those who spoke the Greek and Latin languages, are represented by their written character ; and this not only for the philology of those languages, but for that of all the modern languages whieh, as we have seen, are connected with them.

The only people who have ever attempted to express in their written character almost every known gradation of sound are the Hindús, those who employed the Sanskrit language. The Sanskrit alphabet has fourteen vowels, each (except ā) with two symbols, one initial, the other medial ; thirty-three simple consonants ; and upwards of 400 or 500 compound consonants, of which 133 are given in Professor Monier Williams' Sanskrit Grammar as ‘the more common’ of such consonants : while Prof. Max Müller (Sanskrit Grammar for Beginners) specifies 257 compound consonants. Sanskrit, in fact, in its whole structure, is an elaborate process of combining letters according to fixed rules. ‘Its entire grammatical system, the regular forma-tion of its nouns and verbs from simple roots, its theory of de-eleision and conjugation, and the arrangement of its sentences, all turn on the reciprocal relationship and interchangeableness of letters, and the laws which regulate their internal combina-tion!’. These laws, too, are the key to the influence which Sanskrit has exercised upon the study of Comparative Philology. That influence is due, not to its being (as is sometimes said) an *older* language—though approaching on the whole nearer to the primitive type whose existence we infer from a comparison of the varions branches of the Indo-European family—but to the

Sanskrit
alphabet.

¹ Monier Williams' ‘Sanskrit Grammar,’ Preface to 2nd ed. p. xv.

fact that its elaborate system of phonetic combination of sounds supplies illustrations for the different phonetic rules which determine the variation, in different languages, of the elements common to all. Owing to the transparency of its construction, the nicety of its laws and its great antiquity in many respects, and especially that of its vowel system, Sanskrit was soon found to be more adapted than any other language to open men's eyes to the nature of the connection of all the sister languages: and in the first rejoicings of the students of language over its discovery, its importance was for a time overrated. 'The preposterous idea that Sanskrit must have preserved in every case the oldest form' is now however generally discarded; and those philologists whose labours rest upon the most thorough knowledge of Sanskrit, are the first to allow that even in its sounds there are weaknesses and corruptions peculiar to it which prevent it from serving in all cases as the starting-point for comparison, and even send us to other languages to recover the primitive form. Thus (to quote the remark of Curtius¹), 'now that this language has for a long time served exclusively to throw light on others, the light begins to shine back from the other languages upon Sanskrit.' With this limitation, however, the pre-eminence of Sanskrit as the central point in the study of Comparative Philology may remain accepted; for (to quote again from Professor Curtius), 'the exuberance of the old Indian literature; the antiquity of its most revered monument the *Rig-veda*; the perfection of its alphabet; the remarkable acuteness and diligence of its native grammarians, who have prepared the most valuable assistance for the study of Etymology, if only by their discovery of the conception of roots and their careful index of roots; all these are claims on the part of Sanskrit, which only during the last half-century has become the field of such fresh and important investigations, to retain permanently the prominent position of importance for the study of the whole Indo-Germanic (Indo-European) stock of languages²'.

¹ 'Principles of Greek Etymology,' Introd. § 5 (p. 37, English translation).

² Ibid. p. 30.

Appendix to Chapter III.

THE GREEK AND ROMAN ALPHABETS.

Greek
alphabet.

A. Greek Alphabet. It is universally admitted that the Greeks learnt the art of writing from the Phoenicians, with whom, as the chief traders of the Mediterranean, they were brought into contact at an early epoch of their national history. In adopting the Phoenician alphabet they seem to have retained both the forms and the names of its letters, slightly modified, in the order in which they originally stood ; the Semitic terms, Aleph, Beth, Gimel, etc., being transformed into names more euphonious to Greek ears, but of course unmeaning except as signs. These names, through the influence of Greek civilisation, have become identified with the practice of writing in all ages and countries ; and the word ‘Alphabet’ (from the first two Greek letters, Alpha, Beta) is a lasting memorial of the obligations of modern literature and science to primitive Oriental ingenuity. The old explanation, that the name of each letter was the name of some familiar object, the first sound of which was the element to be represented, *Aleph* (*A*) being Phoenician for ‘ox,’ *Beth* (*B*) for ‘house’ (cp. *Beth-el*=‘House of God,’ *Beth-horon*, etc., familiar to us from the Bible), *Gimel* (*G*) for ‘camel,’ etc., is now discredited ; and the Phoenician alphabet is no longer regarded as the *ultimate* source of the world’s alphabets, but is itself traced back to an Egyptian source, being in its origin hieroglyphic¹.

The names of the letters were but little changed either in Greece or the East, though their forms must have undergone some alteration. The original community of form between the classical Greek characters and the later Phoenician may be traced in the older inscriptions of the two languages. The

¹ See especially Lenormant, ‘Introduction à une mémoire sur la propagation de l’alphabet Phénicien dans l’Ancien Monde’ (published 1866).

whole Phoenician alphabet of twenty-two letters was adopted by the Greeks with certain variations of power and order, as appears from the subjoined table¹, in which column I give the Phoenician alphabet, as a representative of sounds, and as a numeral system (this latter usage being also adopted by the Greeks); column II, the whole number of letters ever used by the Greeks in their earliest forms (twenty-one Phoenician, in their original order², and five of native Hellenic invention); column III, the classical Greek alphabet; column IV, the corresponding numeral system; column V, the Roman alphabet, with the probable pronunciation of its different letters.

The old Phoenician alphabet consisted only of consonants; the Phoenician alphabet.
pure vowel-sounds (like ā medial in Sanskrit, p. 35, note 3), being considered as subordinate aids to pronunciation, and included in the power of each consonant. In Greek etymology, however, the vowels were of almost equal importance with the consonants; and required to be as exactly distinguished as these, in a language which depended so much upon poetry and music for its full formation. But for this purpose they had not to invent altogether new characters; for several of the letters of the Phoenician alphabet, though technically classed as consonants, were more properly semivowel in character, and were appropriated by the Greeks to denote the vowel-sounds to which they had respectively affinity. These letters were Aleph, He, Jod, Oin, which were adopted as the simple vowel-sounds *A*, *E*, *I*, *O*;

¹ For the general plan of this Table, and some of the information about the Phoenician alphabet, I am indebted to Col. Mure's 'History of the Language and Literature of Ancient Greece,' Book I. ch. iv. § 8. The information about the Greek alphabet is derived from Kirchhoff's exhaustive little treatise, 'Studien zur Geschichte des Griechischen Alphabets' (Berlin, 1867); that on the Roman alphabet mainly from Corsen.

² The Rev. Isaac Taylor, in his interesting volume 'Greeks and Goths' (Macmillan, 1879), an enquiry into the origin of the Runes of the Gothic 'Futhorc,' gives a table (p. 54) showing three successive types of the Greek alphabet: 1. 'Cadmean,' obtained mainly from inscriptions at Thera and Abousimbul; 2. 'Thracian,' from Thracian coins, pottery at Thasos, and inscriptions at various cities in the Aegean and Greece proper, being the alphabet in use during the fifty years preceding the Persian invasion; 3. 'Attic,' the standard alphabet of the fifth and subsequent centuries—the 'Thracian' alphabet being the parent of the Runes. Whenever the 'Cadmean' differs from 'Thracian' forms, both are given in col. 2. of our Table on p. 42.

TABLE SHOWING THE CORRESPONDENCE BETWEEN THE PHOENICIAN,
GREEK, AND ROMAN ALPHABETS.

I. Phoenician Alphabet and Numerical Value.	II. Full No. of Greek Letters (earliest form ¹).	III. Classical Greek Alphabet.	IV. Numerals corresponding.	V. Roman Alphabet.	
				Characters.	Probable Pronunciation.
1 Aleph = 1	Alpha Α	Α	1	Α	ah
2 Beth = 2	Beta Β	Β	2	Β	b
3 Gimel = 3	Gamma Κ Γ	Γ	3	Κ=Κ	k (c in cat)
4 Daleth = 4	Delta Δ Δ ²	Δ	4	Δ	d
5 He = 5	Epsilon Ε Εψιλόν	Εψιλόν	5	Ε	ay (a in whale)
6 Vau = 6	Vau Φ	Φ	6 (σ')	F (older Π)	f
7 Zain = 7	Zeta Ι	Ζ	7	(Ζ)	g (in give)
8 Heth = 8	Heta Η Ή	Η	8	Η=‘	h (in hat)
9 Teth = 9	Theta Θ ⊗	Θ	9		
10 Jod = 10	Iota Ι	Ι	10	I { vowel consonant	ee (in feet) y (in yes)
11 Kaph = 20	Kappa Κ	Κ	20	(Κ)	k
12 Lamed = 30	Lambda ΛΛΛ	ΛΛΛ	30	L (old Λ)	l
13 Mim = 40	Mu Μ	Μ	40	Μ	m
14 Nun = 50	Nu Ν	Ν	50	Ν	n
15 Samech = 60	Sigma Σ	Σ	60		
16 Ayin = 70	Ostrophiē Ο Ο μικρόν	Ο μικρόν	70	Ο	o
17 Pe = 80	Pi Π	Π	80	P (Π inscr.)	p
18 Tsade = 90	Tsade Μ	Μ			
19 Koph = 100	Koppa Ο	Ο	90 (Ϙ)	Ϙ (old Ο)	k
20 Resch = 200	Rho Ρ Ρ	Ρ	100	Ϙ (old Ρ) ³	r
21 Shin = 300	Xi Σ	Σ	200	Σ	s
22 Thau = 400	Tau Τ	Τ	300	Τ	t
	Τ Υ Ψ	Τ	400	V vowel	oo (in fool)
	Phi Φ	Φ	500	V consonant	w, or Fr. ou in oui
	Chi Ψ Χ	Χ	600	Χ=Ξ	x
	Psi (caret) Ψ	Ψ	700	(Υ) { later introductions to	
	Ϙ Ω	Ϙ μέγα	800	(Ζ) { represent Gk. ν, ξ.	
			900 (Ϟ)		

¹ The Greek characters are originally the Phoenician characters reversed to suit the mode of writing from left to right, which in Greece superseded the earlier right-to-left ('links läufig') writing of the Phoenicians. Examples of this latter method are found in the oldest Greek inscriptions: while in those of the sixth century B. C. is found a mixture of the two modes ('furchenförmig' or 'ridge-like') in which the writing is read backwards and forwards in alternate lines, e.g.

Ι Σ Τ Ι Α i.e. Ἰστια(ίος)
Ω Ε Τ Η Κ (ἀνέθηκε τάω-
Π Ο Λ Λ Ω -πόλλω(νι))

² Δ on Olympian inscriptions.

³ This tailed R is found in the old Greek alphabet; e.g. on some inscriptions at Olympia.

while Vau, which, on analogy of the others, should have been Greek alphabet, converted into *U*, retained its original power, as the expression of the consonantal sound of *U*; though it may have served originally for both vowel and consonant sound. A new sign *Y* or *V*, expressing the vowel-sound of *U*, took its place at the end of the twenty-two Phoenician letters. No known Greek alphabet, however, is without this sign, or has less than twenty-three letters. The invention, therefore, and adoption of *V* was probably contemporaneous with the adoption of the Phoenician alphabet: and we may regard the original Greek alphabet as consisting of twenty-three letters, identical with that which appears on the oldest inscriptions of Thera and Melos (circ. 620 A.C.). The Vau (better known under its later name of *διγαμμα*, from its form *F*) did not long remain in use, its form being only known to us from early inscriptions. It reappears, however, in the Latin *F*, occupying in the Roman alphabet the place of Vau in the Phoenician, but denoting a different sound.

These five vowel-characters at first denoted both the long and short vowel-sounds, *E* and *O* having besides the functions of the diphthongs *eu*, *ov*, which were not until comparatively late times expressed by combinations of simple vowel-characters. Much earlier, before about 620 A.C., the attempt was made to distinguish long and short *e* by the adoption of a sign *g* for *ē*, *E* remaining for *ě* and *ei*. This sign *g* was apparently a modification of the Phoenician *ח* (Heth, Hebrew 'Cheth'), which in its open shape *H* was used to denote the *spiritus asper*. It is also found in the closed shape *ף* as aspirate on some early inscriptions discovered at Olympus. *HOΣ* occurs on inscriptions = *ōs*, and *H* stands for *ékatóν*: and this usage of course survives in Latin *H*. When *H* was taken as a vowel, it was cut in two so that *†* represented the *spiritus asper*, *‡* the *spiritus lenis*; whence came the signs ‘’ for the breathings.

Somewhat later (according to Kirchhoff, about 550 A.C.) arose the distinction between *ō* and *ö*, by the introduction of a new character *Ω*¹, which took its place at the end of the alphabet,

¹ Ω and *H* were introduced into the Athenian alphabet in 403 B.C. (arclionship of Eucleides); but their invention must be placed much further back.

Greek
alphabet.

after three new characters expressive of double consonantal sounds. The names ο *μικρόν*=*ō*, and Ω *μεγάλον* or *ō*, were given after this to distinguish what had hitherto been combined in one form. The character ω (i.e. *oo*), introduced about Hadrian's time, made its form, like its sound, a lengthened *o* (cp. our *w* or 'double *u*').

The Phoenician *Teth=t* sound, and *Thau=th*, were retained in their places by the Greeks, but their respective powers were interchanged, and the names slightly altered to correspond; *Teth* becoming *Theta* and representing the aspirated *t*, and *Thau* becoming *Tau* for the unaspirated *tenuis*.

The Phoenician alphabet was remarkable for its number of sibilants—viz. Nos. 7 (*I*), 15 (*ף*), 18 (*M*), 21 (*ץ*)¹. *I* (in its later form, *Z*) was adopted at first to denote the double consonant sound of *τs* or *δs*, peculiar to Greek, and retained this its original force throughout. To express the simple sibilant the Greeks had the three remaining characters to choose from. At first it was denoted by *M* (in the alphabets of Thera, Melos, Crete, Corinth, Corcyra, &c., Olymp. 40–80); then by *Σ*, or (written in a shorter form) *ς*, whence the Latin form *S*. The superfluous character *M* then disappeared from the alphabet; but the later form of *Ϻ* (Phoen. alph. 13) exactly resembled it in shape: hence the apparent anomaly of the same form denoting at different periods such unconnected sounds as *s* and *m*. The remaining character *ף* escaped extinction, because the Ionic alphabet, which finally prevailed in Greece, had employed it (as *ϩ*) to denote the compound sound *ks* (*ξ*). A later form still of *Σ* (sigma) was *C*, whence in late authors the orchestra is called *τὸ τοῦ θεάτρου στήμα*, and *sigma=a* semicircular couch (Martial, x. 48, etc.). [The Latin form *S* arises from the attempt to write *ς* in a single stroke. In the classical alphabet it has interchanged places with *Ξ*.] We also hear of *σάν*², a Dorie

¹ The numbers refer to the Table on p. 42.

² Herodotus (i. 139), speaking of the Persian names, says they all end in the same letter, *τὸ Δωριέες μὲν Σὰν καλέουσι, Ἱωνὲς δὲ Σίγμα.* *σαμφόρας* (Ar. Eq. 603, Nub. 122, 1298) is a horse marked with the old letter *σάν*; cp. *κοππατίας ἵππος*, Nub. 23. Col. Mure assumes *σάν* to have been derived from the Phoenician *Zain*, and places it in col. II. of his table between *Tau* and *Heta*, supposing that the Dorian usage of *σάν=σ* alluded to by

form of $\sigma\acute{\iota}\gamma\mu\alpha$, which only remained as a numeral = 900, under ^{Greek} alphabet, the name $\sigma\alpha\mu\pi\iota$, in the form \beth .

Koppa, Q, disappeared from the classical Greek alphabet, its sound being so like that of K, that one sign sufficed for both. It remained however as a numeral = 90, and is found in old Doric and Aeolic inscriptions : and it survives in Q, which the Romans adopted from the Dorian alphabet of the Greeks of Cumae.

Xi was originally written ΞΣ (*chs*). The original Greek alphabet had no sign for the guttural and labial aspirates (*kh*, *ph*), nor for those combinations of a mute with a following sibilant (*ks*, *ts*, *ps*) which seem to have been regarded by the Greek ear as single indivisible sounds, requiring a corresponding expression in writing. The dental aspirate was from the first expressed by Θ ($\otimes \oplus \odot$); and the Phoenician character Τ in its later form Ζ was, as we have seen, adopted as the sign of dental mute + sibilant (*ts*). The other combinations, πh , κh , κs , πs , are expressed on the oldest inscriptions by juxtaposition of the signs for their component parts : but the range of the alphabet was afterwards increased by three new signs, ϕ, X (+), Ψ (Ψ), which took their place after Υ. Their introduction must have been early; for no alphabet but those of Thera and Melos is without them. The order, however, and significance of the new signs varied in the two main groups of Greek alphabets. Thus (1) in the *Eastern* group (including Argos and Corinth in Greece proper) the order was ϕ X Ψ, signifying as in classical Greek πh , κh , πs respectively: the sound of κs being denoted by Σ (HH), a variety of the Phoenician Σ (Samech). (2) The *Western* alphabets put X before ϕ, and gave it the value of κs , denoting κh by Ψ, and using for πs the old expression πs or ϕs.

This latter usage (of Western Greek alphabets) represents, according to Kirelhoff, the original order of these signs, superseded by the ultimate prevalence of the Ionian alphabet, as exhibited on inscriptions of the Aegean islands. The Roman alphabet, derived from a Dorian source (see below), has pre-

Herodotus was a mere provincial anomaly. Liddell and Scott regard it as a 2nd sibilant, which : Phoen. *Shin* :: Σ : Samech,

served the force of $\chi = \kappa\varsigma$ (ξ), and (as a numeral sign only) that of $\psi = \kappa\chi$: but in the classical Greek alphabet all trace of these values has disappeared. On the other hand, in Roman inscriptions of all periods we find XS for X¹, which looks as if the idea of X as $= ch$ (χ) still influenced to some extent its written value. Its place in the Roman alphabet was of course determined by that of Greek x (χ).

Roman
alphabet.

B. *Roman Alphabet.* The history of the Roman alphabet will be found fully treated in such books as Wordsworth's 'Fragments and Specimens of Early Latin' (Introd. chap. II), and Roby's Latin Grammar, and need only be briefly noticed here². It was derived from the Dorian alphabet of the Chalcidian colony of Cumae, as is shown by the form of $S = \zeta$, and the use of Q (Koppa); and in its oldest form seems to have consisted of twenty-one letters, viz. A, B, C, D, E, F, Z, H, I, K, L, M, N, O, P, Q, R, S, T, V, X. The three aspirates *th*, *ph*, *ch* (in the Dorian character \odot , Φ , \Downarrow) were never used by the Romans, but the characters were retained as numeral signs. \Downarrow (χ) was written \perp , and abbreviated into L=50; \odot , with its circle incomplete, became C=100, and was then identified with the initial of *centum*: and Φ became c10 or \oslash , and finally M=1000. D=500 is the half of Φ ; X=10 is perhaps from \otimes , an ancient form of θ ; and V=5 is the half of X.

Z went out of use at a very early period, its occurrence in the 'Carmen Saliare,' and on a single coin, being in fact the only evidence for its having been used at all; but in the time of Cicero it was reintroduced for the transcription of Greek ζ .

K went out of use, probably before the XII Tables, except in a few old abbreviations (Kal.=Calendae, K=Kaeso, etc.), and C was used to denote both the guttural *tenuis* and *media*, until a modified form, G, was taken to represent the *media*. The earliest inscription upon which G is found is the epitaph of

¹ Mr. Roby quotes as instances *cextrad* (S. C. de Bacch., see Appendix I), *taxsat*, *lexs. proxsumus*, *cexigito*, *deixserit*.

² The most complete account (from which the others referred to are mainly derived) is to be found in pp. 1-29 of Corssen's 'Ueber Aussprache,' etc., vol. i. For illustrations and examples reference must be made to Corssen.

Scipio Barbatus, i.e. not later than 240 B.C. (Appendix I). The ^{Roman} alphabet. old *C* was retained in *C*, *CN*=Gaius, Gnaeus.

In the time of Cicero, *Y* and *Z* were introduced for representing *v* and *ζ* in Greek words: and the combinations *th*, *ph*, *ch*, were written for the first time (see below, chap. iv).

The Emperor Claudius tried to introduce three new letters, viz. an inverted digamma \beth , for the consonantal sound of *v*; a reversed Greek sigma σ , for *bs* or *ps*; and the sign of the Greek *spiritus asper* f (see above, p. 43), for the middle sound between *i* and *u*, i.e. Greek *v*. The first and third of these letters are found on monuments of the period, but did not remain in use: while for the ‘anti-sigma,’ as it was called, there is no evidence even of contemporary monuments.

Double consonants¹ were not written till the time of Ennius, who is said to have introduced the practice in imitation of Greek. The earliest instance upon inscriptions is about 186 B.C. (see Appendix I), from which time to that of the Graechi (about 120 B.C.) usage fluctuates: after 120 B.C. doubled consonants are general. Another method of denoting stress upon a consonant was by the ‘sicilieus’ (so called from its shape, *sica*), e.g. *ser'a, as'eres=serra, asseres*.

The example of Greek η and ω led Roman *litterati* to try various methods for expressing long vowel sound.

(a) Doubling the vowel; said to have been used by the poet Accius, and found on inscriptions of his time between 130 and 75 B.C., always with the vowels *A, E, V* (*vootum* is found on an earlier inscription). A double *I* was used after Cicero and Caesar to express the semivowel *j* (*Aiiax, Maiia*, etc.).

(b) The length of *i* was in earlier Latin expressed by writing it *ei*; but after Sulla’s time by making the *i* taller than the other letters (*VICUS, LIBERI*, etc.). This tall *i* was also used for the semivowel or *j* sound, especially at the beginning of words

¹ The date of the introduction of doubled consonants is of some importance for the scansion of Plautus. Plautus died fifteen years before Ennius; and but few instances of double consonants in his plays can be really genuine. *Suplectile, similumae, satellites, sagitu*, etc. are generally correct; and *ille, esse* must often be scanned *ile, ēse*. See Wagner, Introduction to *Aulularia*, pp. xli-xliv.

(Ivs, IVBETO, etc.); and in later inscriptions it is used confusedly for both *i* and *ȝ*.

(c) By an accent or ‘apex’ (‘) from about 63 B.C. onwards. In Republican inscriptions this apex is found over *A*, *E*, *EI*, *O*, *V* (for examples, see Corssen, I. p. 22); in the Augustan age it is almost universal.

The Romans devised a simple nomenclature for the letters, which has superseded the Graeco-Phoenician names of the Greek alphabet. The vowels were denoted by their own sound; the explosive (mute) consonants and *h* by a vowel after them; the fricative and nasal sounds by a vowel before them. The vowel employed for this purpose was *e*, except that *k*, *h* were called *ka*, *ha*, *q* was called *qu*, and *x*, *ix*.

CHAPTER IV.

CHANGES AND MODIFICATIONS OF SOUNDS¹.

THESE must be noticed here so far as they affect Latin and Greek, and further illustrations of their operation will appear hereafter in the explanation of inflections. Sounds, we must remember, are interchanged and modified (*a*) between two or more languages [*δάκρυ, lacrima*; *duo, two, zwei*; *πέντε, quinque*]; (*b*) in the same language [e. g. *tego, toga*; *τρέφω, θρέψω*]. These changes and modifications proceed according to definite rules, varying sometimes in different languages; and the correct investigation of these rules is the basis of all true etymology.

Two general principles affect etymology:—

(*a*) *Harder sounds are not derived from easier*; or words which have retained a stronger letter from those which exhibit a correspondingly weak one. (In our Table of sounds Gutturals are stronger than Palatals, and so downwards; Tenues stronger than Mediae; Explosive stronger than Fricative.) Thus *κοῖος* must be older than *ποῖος*; *equus* than *ἵππος* (*ἴκκος, αἷνας*), *sus* than *vrs.*

Apparent exceptions are often examples of the general phonetic law that change arises from weakness of articulation: e. g. *frag-or, frac-tus*. It is easier to pronounce tenuis and tenuis together, media and media, aspirate and aspirate: so in

¹ In this chapter I have gone over somewhat the same ground as that covered by Peile's 'Introduction to Greek and Latin Etymology,' adopting in the main his arrangement of the phenomena of phonetic change, with many of his illustrations.

Greek, *λεκτός* from *λέγω*, *τυφθείς* from *τύπτω*, *πλεχθείς* from *πλέκω*.

So *hiem-p-s* appears stronger than *hiem-s*; but *p* is merely phonetic, inserted because it is difficult to sound *s* after *m*. Again, the reduplicated form *θιθημι* is changed by Greeks to *τιθημι*, which is easier to pronounce, though *τ* by itself is stronger than *θ*.

Sounds usually interchangeable only at the same part of the mouth.

(b) *Generally*, only letters pronounced at the same part of the mouth are etymologically interchangeable—dentals with dentals, labials with labials, etc. [Gutturals, however, the strongest sounds of all, sometimes give way altogether to dentals or labials; and in Sanskrit, Greek, Latin, and Gothic, are found less frequently than these latter.]

Apparent exceptions may often be explained by the existence of both sounds in the original form; e.g. *bis* and *δις*: ep. Sanskrit *dvis*. Here the Latin *b* is due to the *v* (*w*) sound. In *ἵππος*, Lat. *equus*, Sanskrit *açvas*, *π* represents the *v* sound. *σύν* and *cum* are the same word; but from *ξύν=κανν*: so *καπνός* and *vap-or* are reconciled by Lithuanian *kvap-as*.

The latest and most comprehensive explanation of such changes, however, is that which refers them to the influence of *weak articulation*. One or two examples of its effects are subjoined.

‘*Labialism*.’ 1. *Labialism*, or change from *k* to *π*, *p*, is supposed by Curtius to be due to a parasitical *v* (*w*), unconsciously produced by lazy articulation of *k* (‘labial after sound’). That *v* (*w*), following *k*, could change it to *p*, appears from Indo-European *akva*, Sanskrit *açva*, *equos*, *ἵππος* (which must = *ikflos*). Here *kv* has become in Greek *ππ*.

That the *v* in these cases was merely phonetic, not a suffix, appears from instances where Latin has *kv* (*qu*), as well as *k* (*c*), e.g. *sequ-or*, *sec-undus*; *coqu-o*, *coc-us*: Greek *ἔπομαι*, *πέπων* show that *v* must be parasitic in Graeco-Italian time, and retained by Latin in some words while dropped by Greek (Peile, 286, 7¹). So with the change from *g* to *β*, *b*; Latin *gu* gives

¹ Corssen (‘Ueber Aussprache,’ etc. i. pp. 71–75) shows that *qu* was a mode of denoting the labial ‘after sound,’ or modification of the guttural

the middle step. In *urguere*, *urgere*, *tinguo*, $\tau\acute{e}\gamma\gamma\omega$, *v* is parasitic; but it is less often so after *g* than after *k*, *g* being an easier sound.

2. *Dentalism*: *k* changed to *t*, probably from influence of *y* ‘Dentalism.’ sound (*i* or *j*), as in transition from *-cio* to *-tio*, where *i* is semivowel. Here it is part of a suffix; but this proves the power of *y* sound to change a guttural to a dental, and hence philologists assume a parasitic *y* where they find the change without any apparent reason. There are, however, few certain examples: $\tau\acute{e}$, *que*, Sanskrit *ea*, Zend *ea*; Indo-Eur. *katvar*, Sanskrit *catvāras*, $\tau\acute{e}\tau\tau\alpha\pi\epsilon\varsigma$ (= $\tau\acute{e}\tau\tau\alpha\pi\epsilon\varsigma$), *quattuor*.

These two instances of change from one class of sounds to another are given to show that some reason can generally be found for the apparent non-observance of our rule (b). We may now pass to the consideration of the two main heads under which all changes of sounds seem to fall; viz.,

(a) *Dynamic change*, which is voluntary, and intended to express change of meaning; the *formative* principle in language.

(b) *Phonetic¹ change*, which is involuntary, and due mainly to lax articulation; the *destructive* principle in language.

We need only here enumerate, with a few examples under each head, the principal changes of sounds that affect Latin and Greek; referring the student for a fuller illustration to such books as Schleicher’s ‘Compendium,’ and Peile’s ‘Introduction to Greek and Latin Etymology.’

A. *Dynamic change*.

1. *Reduplication*. This appears to be the earliest and most ‘Dynamic’ natural device of language to strengthen the expression of an ^{change.} _{Reduplica-} *idea*, observed most frequently in the language of savages and

tenuis, and so a transition from guttural *k* to labial *p*. In English, a similar labial modification of the dentals is expressed in *between*, *dwarf*, and palatal modification is heard in the pronunciation of *nature*, *verdure* (*ty*, *dy*). The labial modification of *d* (*dw*) is expressed in Old Latin *duellum*, but passed into the simple labial in classical Latin, *beltum*. Cp. *bis* with Sanskrit *dvis*, quoted above; and *duonoro(m)*=*bonorum* on old inscriptions.

¹ ‘Phonetic’ is sometimes applied in a wider sense to any change of sound, voluntary or involuntary: I have restricted myself to its more limited application.

Reduplica-
tion.

children, and commoner in the earlier than in the later stage of highly developed languages such as Greek and Latin. In these it is gradually superseded by more refined and subtle modes of expressing the required change of meaning ; and traces of its application remain only in occasional and (for the most part) exceptional phenomena :—

(a) In *imitative* words, e.g. *ululo*, ἀλαλάζω; or names of animals expressive of their sound, e.g. *cuculus*, *turtur*; ἔποψ, τέττιξ.

(b) In *Alliteration*¹, a favourite device of early Latin and Greek poetry (and also among other nations), to strengthen the expression of an idea by mere repetition of the sound of letters and syllables. Ennius and Naevius exhibit constant examples of its use; as also does Plautus, with whom however it becomes more of a trick of composition. Lucretius also employs it with considerable effect (for examples, cp. Munro's 'Introduction to Notes,' II. pp. 106, 107, 1st ed.), and Virgil does not disdain this among other poetical artifices, e.g. Aen. vi. 834 :—

‘Neu patriae validas in viscera vertite vires.’

Alliteration, of course, does not prove the use of reduplication as a *formative* principle in language; but it illustrates the natural tendency to intensify an idea by the repetition of sound.

(c) As a formative principle, Reduplication is commonly employed in Indo-European languages to produce ‘frequentative’ and ‘desiderative’ verbs. In Sanskrit such words are regularly formed from every root, by reduplicating the initial consonant and vowel of the root, and suffixing in one case ya, in the other ish or sh. Thus from the root budh (=‘to know’) are formed bobudhye² (frequentative or intensive), bobudishámi (desiderative); from vid (=‘to know,’ Greek θεῖν, Latin *vid-ere*), vividye (frequentative), vividishámi (desiderative). Similar formations in Greek and Latin are μαρμαίρειν (root *mar*³,

¹ On the use and effects of alliteration in Latin poetry, see Munro's 'Lucretius,' Introduction to Notes, II. (vol. ii. p. 106, 1st ed.).

² Greek μι-μέομαι=μι-μά-γο-μαι is perhaps analogous to *bo-bhud-ya*.

³ The various ramifications of this root *mar* are exhaustively traced in Max Müller's 'Lectures,' II. vii.

originally = ‘to grind down,’ ‘rub,’ and so ‘polish’), ‘to flash;’ παυφαίνειν (root φαν, as in ἐ-φάν-ην), ποιπνύω, δειδίσσομαι; μερμηρίζειν, cp. Lat. *me-mor-ia*, etc.; or in nouns, λαῖλαψ (root λαβ, as in ἐ-λαβ-ον, (δαιδάλεος, παιπαλόεις, ἀμαμάκετος. The same force appears in the reduplicated 2 aorist.

(d) Reduplication is also employed in the formation of some ‘present stems’ (denoting, apparently, protracted as distinguished from momentary action), e.g. διδωμι, τίθημι, γίγνομαι, πίπτω (root πετ, as in ἐ-πεσ-ον); Lat. *sisto*, *gigno*, *sero* (=se-so, root sa, as in *sa-tum*). More commonly still (in Greek almost universally), to form ‘perfect stems,’ e.g. λέλοιπα (root λιπ, as in ἐ-λιπ-ον), *pepuli*: such forms, indeed, are too familiar to require illustration for the present.

2. *Vowel Modification* (‘strengthening’ or the reverse), e.g. Dynamic change: for the formation of Noun or Verb stems: λιπ-, λείπ-ω, λουπ-ός; ‘Vowel-intensification.’ speech expressed these and similar modifications of ideas by modifying the vocal sounds, so as to form a regularly ascending scale of each of the three primitive vowels, *a*, *i*, *u*.

The vowel sounds thus gained were used by different Indo-European peoples, according to different phonetic laws, with more or less regularity. Sanskrit exhibits them as follows¹:

a,	1st a or ā	2nd ā	(in many roots there is no distinction between the original <i>a</i> and its first raising.)
i,	ē (for ai)	āi	
u,	ō (for au)	āu	
ṛi,	ar	ār	
ḷi,	al	āl.	

¹ The two stages of vowel increase in Sanskrit are known by the names of *Guna* (गुण, ‘quality’) and *Vṛiddhi* (वृद्धि, ‘increase’). Thus from √vid, ‘know,’ is formed by *Guna*, *Veda*; by *Vṛiddhi* with addition of a suffix -ika) *Vaidika* = ‘belonging to the Vedas.’ It is doubtful, however, whether anything strictly answering to *Vṛiddhi* is found in the cognate languages. In conjugation, vowel intensification strengthens verbal bases in those persons whose terminations are called weak. Thus from √i, ‘go,’ is formed in sing. émi, éshi, éti; in plur. i-más, &c.: cp. Gk. εἴμι, εἰσ or εἴ, εἴσι, ἴμεν.

The questions whether the larger (or ‘raised’) forms of roots are derived from the shorter (λείπ- from λιπ-), or *vice versa*, and whether the change from ε to ο represents an original lengthening or not, need not be discussed in an elementary work.

These scales are employed in the formation from *roots* of noun and verb stems. Indications of a similar employment of vowel scales are exhibited by Gothic and Lithuanian (Peile, pp. 191-2), and by Greek and Latin; by Greek most fully, its vowel system being stronger and less liable to corruption than that of Latin.

The scales in Greek are :—

Vowel-scales:
Greek.

A scale. α , ϵ , ω , raised 1st to $\bar{\alpha}$ or η .	2nd to ω .
e. g. λακ, λέλακα } ἀγ, ἔτηγα, } perfect stems.	ρήγνυμι, ἔρρωγα, πτήσσω, πτώξε.
I scale. i raised 1st to ϵi (ai),	2nd to oi .
e. g. λιπ, λείπω, πιθ, πείθω, ἰδ, εῖδω,	λέλοιπα, πείθω. πέποιθα, εῖδω, οῖδα.
U scale. u raised 1st to ϵu (av).	2nd to ov ($\bar{a}v$).
e. g. ελευθ, (ἡλυθ-ον), πνυ, πνέῦμα, χν, χείω,	εὶλήλοιθα, σεύω, σοῦμαι, σπεύδω, σπουδή.
N scale. v or \ddot{a} , raised 1st to ϵv .	2nd to ov .
e. g. γᾰ (γέ-γα-μεν), γέν-ος, τᾰ (τα-τός), ἀ-τεν-ῆς, πᾰθ, πένθ-ος, μν (μί-μν-ω), μένω,	γέγονα, γόνος, τύνος, πέπονθα, μόνος.
(Sometimes $\ddot{a}v$, as)	
ε-κτᾰν-ον, (κτεν),	εκτονα.
R scale. ρ or $\ddot{a}\rho$ ($\rho\ddot{a}$), raised 1st to $\epsilon\rho$ ($\rho\epsilon$).	2nd to $o\rho$ (ρo).
e. g. μᾰρ, μέρ-ος, πρᾰθ, πέρθ-ω, τρᾰπ, τρέπ-ω, δρᾰκ, δέρκ-ομαι,	ἔμμορα, μόρος, πέπορθα, τρόπος, δέδορκα.
L scale. λ or $\ddot{a}\lambda$ raised 1st to $\epsilon\lambda$.	2nd to $o\lambda$.
e. g. πλ (ἐ-πλ-ετο), πέλ-ω, βᾰλ, βέλ-ος, τᾰλ (ἐ-τέ-ταλ-το), τέλ-ος,	πόλος, βολή, ἐν-τολή.
Scale consisting of short vowels; with loss of ϵ if possible in the short form of the root, and 2nd raising by change to o .	
e. g. σχ (ἐ-σχ-ον), ἔχ-ω (σεχ), ὕχος, σπ (ἐ-σπ-ετο), ἔπ-ομαι, ὅπλον, πτ (πί-πτ-ω), πετ, ποτ-μός, τεκ (ἐ-τεκ-ον), τέκ-ος, τέτοκα, τύκος, (λγ) λέγ-ω, λόγος.	

Traces of vowel scales in Latin :—

Vowel-scales:
Latin.

A scale. e, a, raised 1st to ē, ā.

2nd to ū.

e. g. lēgo, lēgem,
placere, plācare.sonus, persōna,
vox (vōco), vōcem.I scale. i raised to [ei], ī, ē.
[ai], oe.

2nd to [oi], oe, ū.

e. g. i. dīc, dīco,
fid-es, fidō,moenera, moinera, munera,
foidus, foedus.U scale. u raised 1st to [eu], au, ū.
duc, dūcere,2nd to [ou], ū.
doueo (inscr.).N scale. en (īn).
mens (Sanskrit. ma-tis),2nd raising on.
moneo.R scale. r (ōr, ūr) raised 1st to er.
fors, fero,
posco (pore-sco), prec-ari,2nd to or.
proc-us.

Scale with short vowels.

nec-s, noceo,
sequi, socius,
tego, toga.

3. *Nasalisation* may possibly also be reckoned as a process of *Dynamic change*: ‘Dynamic Change,’ as being an extension of consonantal sound parallel to that of vowel sound just described, e. g. in *tundo* (root *tud*), where *tund* : *tud* : : πειθ- : πιθ-. In its origin the nasal is a variety of another sound (see above, p. 33), and the guttural nasal is found (except in Sanskrit) only in combination with the guttural which produced it (*ἀγχόνη*, *angustus*). Nasalisation occurs chiefly in the formation of a certain class of present stems in Greek and Latin; and in the verbs so formed it is (like vowel-intensification for the same purpose) confined to the present stem. This formation will be found discussed in chap. viii; and if the view there adopted, that the nasal is dynamic, and not merely part of a grammatical suffix, be correct, we possibly may reckon Nasalisation with Reduplication and Vowel Intensification as a means of ‘Dynamic change’!¹

¹ Consult especially Curtius, ‘Tempora und Modi,’ pp. 53–66; ‘Das Verbum,’ i. pp. 240 sqq.; also Peile, ch. vi. pp. 215–220 (3rd ed.).

Phonetic
change:

B. Phonetic Change:—

The difficulty of tracing vowel-intensification in Latin points to the opposite process of weakening or decay, which in vowels is particularly characteristic of that language. This brings us to the second head of change, viz. that which is involuntary, or ‘phonetic’ strictly so called, the principle of ‘Phonetic Decay,’ which plays so large a part in the history of language. As has already been pointed out (chap. iii.) the cause of such change is the conscious or unconscious effort after ease of articulation.

Its effects.

Its effects may be traced (i) in the substitution of a weaker for a stronger sound; (ii) in the loss of letters representing certain sounds; (iii) in ‘assimilation’ to a neighbouring sound, where the concurrence of two *dissimilar* sounds causes difficulty of pronunciation; (iv) in ‘dissimilation,’ where the concurrence of two *similar* sounds causes a like difficulty. We may look at these effects I. in vowels, II. in consonants.

Vowel-
change:
Substitu-
tion.

I. Vowels: (i) *Substitution of weaker for stronger sound.* The Latin language, we saw, retained fewer traces than Greek of the system of Vowel Intensification. On the contrary, it is especially distinguished by weakness and decay of vowel sounds. Thus of six diphthongs (*ai, ei, oi, au, eu, ou*), once in use as Latin sounds, and traceable on inscriptions, five had dwindled down to simple sounds by the time of Plautus, *au* being the only one generally preserved (with the exception of *eu* in a few words, *neu, ceu, neuter, heus*, etc.); while here we have a weakening to *o*, and forms with this weaker sound side by side with those retaining *au*; e. g. *lautus, lotus, Clodius, Clodius, plundo, explodo*. The other diphthongal sounds were entirely superseded by the weaker forms; e. g. *quaistor* by *quaestor*; *coirare* by *coerare*, then *curare* (cp. *foidus, foedus*); *deivus* by *dīvus*, *omneis* by *omnēs*; *joudex* by *judex*. In vowel sounds again, Latin shows a constantly progressive degradation of sounds from stronger to weaker, as represented in the following scale:—

A to O . . . U . . . E . . . I	Substitution of Vowels:
O to U . . . E . . . I	
U . . . E . . . I	
E to I, U.	
I to E.	

A comparison of Greek and Latin with Sanskrit shows that the original vowel *a* (largely predominant in Sanskrit) has been changed first by breaking up into the three sounds of *a*, *e*, *o* (e. g. *ποδός*, *πόδες*, *πόδας*, Sanskrit *padás*, *pádas*, *pádas*), and then by further weakening of each of these three sounds. While, however, in Greek the process of vowel change was (speaking generally) confined to the breaking up of original *a* into *a*, *ɛ*, *o*, (*i* remaining unaltered,) and a vowel of one scale but seldom passing into another (*a* to *i* or *v*¹): in Latin such further changes are so frequent as to assume the character of special phonetic laws of the Latin language. A few examples under the heads of formative elements, composition, and reduplication, will make this clear.

(a) *Formative elements*: i. Verbs. Sanskrit *bharā-mas* becomes Greek *φέρω-μες* (Doric), the thematic² *a* passing to the *o* sound and there remaining. Latin weakens *o* to *u* in *vol-u-mus*, and generally weakens it still further to *i*, e. g. *fer-i-mus*. The apparently unsubstantial character of the second *a* in *bharā-mas*, as a mere link between stem and termination, has perhaps helped its decline: and we see that in the termination *-mus* it has not sunk so far. In the termination again of 3rd pers. plur. (Sanskrit *anti*, Greek *-οντι* (Doric), Latin *-unt*), the weakening of *a* in Latin, though it goes one step further than Greek, stops at *u*; while such forms as *dederont*, found on inscriptions, and the retention of *o* after *u* in *quom*, *loquontur*, etc., show that the *o* sound was not entirely superseded. In *ferentem* and *ferendum*, however, the *a* before *nt* sinks down to *e*; old legal forms like *jure dicundo*, *res repetundae*, also *moribundus*, *oriundus*, *secundus*

In Forma-
tive ele-
ments.

¹ Schleicher (comp. § 32) gives a few examples of *a* of primitive Indo-European roots weakened to *i* or *v* in Greek, e.g. *dadāmi*, *δίδωμι*; *μύλος*, from root *mal* (*mar*); *νυκτ-*, Lat. *noct-*, Skt. *nakta*. See also Peile, ch. vii. (p. 275, 3rd ed.).

² The ‘thematic’ or, as it used to be called, ‘connecting vowel’ is explained in ch. viii.

Substitution (= *sequendus*), etc., remaining as evidence of an earlier stage in of Vowels: the process of decline. The Greek participle stops short at *o*, in *φέροντος*.

In final syllables the vowel usually sinks to *e*, e. g. *monueront*, -*unt*; then (*nt* being lost by the lax pronunciation of the final syllable, which was characteristic of Latin) *monuere*; *uteris*, *utere*; *ipsus*, *ipse*; cp. ablative in *ě* of 3rd declension, originally *i*. The reason for *i*, the weakest of the vowel sounds, thus passing to *e* in termination, is suggested by Corssen to be, that in pronouncing *e* the organs of speech vary least from their position when at rest.

2. Nouns. The masculine terminations -*os* and -*us* (in early Latin -*os*) represent Sanskrit -*as*, the *a* sinking in Greek to *o*, in Latin a step further to *u*. So neuter terminations; Sanskrit *janas*, Greek *γένος*, Latin *genus*; in oblique cases sinking to -*es*, *γένε(σ)ος*, *gener-is*; but in some words retaining the stronger sound, e. g. *corpor-is* = *corpos-is*, from *corpus*. In gen. plur. *duonoro(m)* = *bonorum*, shows that -*um* is a weakening of -*om* (cp. Greek -*ων*), representing an original -*ām*, the older vowel sound being apparently retained in provincial Latin, and transmitted to modern Italian—e. g. *loro* = *illorum*.

In Composition.

(b) *Composition*: *a*, *o*, *u*, in Latin frequently weakened to *i*, the lightest vowel, from effort after lightness of sound; e. g. *causidicus* (*causa*), *armiger* (*armo-*), *corniger* (*cornu*). Especially is this the case in composition with prepositions, where such weakening is the rule with but few exceptions, cp. e. g. *capiro* with its compounds, and with *auceps*, *castus* with *incustus*, etc. In Greek compound verbs, on the contrary, the original form remained generally intact—cp. *ἄγω*, *συνάγω*, *παράγω*, *κατάγω*, with *ago*, *redigo*, *subigo*, etc. Where this prevailing tendency did not obtain in Latin words, the exception may sometimes be accounted for by the particular meaning, e. g. in *tepefacere*, *calefacere*, etc. The idea of causation, obviously represented by *facere*, may have prevented the sinking of the vowel which takes place in *conficere*, *perficere*, etc. Other exceptions, for which it is not easy to see a reason, are *posthabere*, cp. with *prohibere*, *perfaciles* with *dificiles*, *expando* (perhaps to distinguish it from compounds of *pendo*, e. g. *expendo*), etc.

(c) *Reduplication.* Here Greek and Latin both weaken the vowel in the reduplicated syllable in most cases to *e*, as in *τέτυφα* (root *τυπ*), *tetuli*. Latin in some words retains a stronger vowel, e. g. *poposci*, *cucurri*; but side by side with these are found such forms as *peposci*, showing the tendency to uniformity, regarding these syllables as mere grammatical forms. And Latin goes further than Greek in weakening the vowel of the radical syllable also, e. g. *pepigi* (root *pag*, seen in *pac-tum*), *cecidi* (root *cad*).

(ii) *Loss of Vowel Sounds.* Uncommon in Greek, except in a few verbs which form a present stem by reduplication, and drop the root vowel, $\pi\iota-\pi(\epsilon)\tau-\omega$, $\gamma\iota-\gamma(\epsilon)\nu-\omega$, etc.; and sometimes in formative suffixes before an inflection, e. g. $\pi\alpha-\tau(\epsilon)\rho\sigma$, $\mu\eta\tau(\epsilon)\rho\sigma$.

In Latin: *a* drops in *clarus* and *clamor* (root *cal*), *palma* (Greek *παλάμη*), *cypressos* (*κυπάρισσος*); *o* in *vict(o)rix*, *nep(o)tis*, *doct(o)rina*, etc.; *u* before *l* (this consonant and vowel having an affinity for each other, as being produced near each other in the mouth), in *vinc(u)lum*, *peric(u)lum*, *saec(u)lum*, etc.; and in words formed with the suffix *-ulo-*, the preceding consonant (especially *n* or *r*) then assimilating itself to *l* and producing the terminations *-ello*, *-ollo*, *-illo*, *-ullo*, e. g. *ocellus* (= *ocululus*), *libellus* (= *liberulus*), *aselus* (*asinulus*), *homullus* (*homonulus*), *corolla* (*coronula*), *bacillus* (*bacululus*), *pupillus* (*pupilulus*), *stella* (*ster-ula*): *e* before *r* (its most cognate consonant), especially in the suffixes *-ero*, *-bero*, *-tero*, etc.; *lib(e)ri*, *inf(e)ra*, *ag(e)ri*, *lateb(e)ra*, *sac(e)ro*, *soc(e)rus*, etc. Far more frequent is the loss of *i*, the thinnest of the vowel sounds, and the most frequent substitute for the stronger vowels. It seems capable of dropping out from almost any position, as e. g. in such familiar words as *quaes(i)tor*, *audac(i)ter*, *val(i)de*, *gaudeo* (cp. *gavisus*), *fer(i)t*; *dixti* (*dic-si-sti*), and similar contractions; *teg(i)men*, *repos(i)tus*; *co(i)go*, *sur(i)go*, *porgo* (beside the longer form *porrigo*), etc.

That this decay of vowel sounds was caused by the vowel gradually dying out of *unaccented* syllables, is the most recent and most probable explanation. This is not the place for a

Effect of the
accent upon
vowel-loss.

discussion upon the Latin accent, such as may be found at length in Corssen's great work, 'Ueber Aussprache,' etc., and briefly summarised in Peile's 'Introduction.' We need only notice (1) that the decay first in quantity¹, and then in form of *final* syllables, which marks the history of Latin speech, seems most fully connected with the known law of Latin accentuation², never to accent the final syllable: (2) that many of the apparent metrical irregularities in the lines of Plautus and Terence (lines which, as intended to be spoken, are naturally subject to the practice of ordinary pronunciation), are best explained by the neglect in rapid pronunciation of sounds in syllables upon which no stress was laid³. We have only to pronounce the words ourselves to understand the Plautine prosody of *voluptátem*, *feréntárius*, *senectúti*; and in these and numberless other cases of comic prosody, the vowel sound is in a kind of intermediate stage between full pronunciation and total extinction—written, but scarcely heard, and liable to be pronounced more or less distinctly according to chance.

N. B. The change of quantity from long to short in final syllables is a loss or weakening of vowel sound, just as raising or lengthening a short vowel is a gain or 'intensification of sound.' Loss of quantity is an intermediate step to extinction of a final sound; and the gradual decay of sounds can often be historically traced through distinct stages of decline—a syllable with a vowel naturally long becoming short in ordinary usages (as *amāt*, *monēt*, cp. *amāre*, *monēre*; *honōr*, cp. *honōris*), then losing its final consonant, and finally, perhaps, disappearing altogether.

¹ As the lengthening a short vowel is a process of raising or increasing (or 'intensifying,' see p. 53) the vowel sound, so the shortening a long vowel is a decreasing or diminishing, and the result a *decay* in quantity.

² The rules of Latin accentuation (little familiar to us as *rules* from the fact that they coincide so nearly with our English accentuation of Latin words) are given by Quintilian, I. O. i. 5. 22-31. See Roby's 'Latin Grammar,' vol. i. § 296 sqq.; and Wordsworth, 'Fragments and Specimens.' Introd. ch. iv.

³ On this question of Plautine and Terentian prosody I may be permitted to refer to Introd., Part IV. of my edition of Terence, *Andria* (Rivingtons, 1875). Reference is there made to other and fuller sources of information.

(iii) *Assimilation of Vowels*: (1) by Consonants, through their phonetic relationship to particular vowels (see above). Vowel-change:
Assimilation.

a, the fullest and most independent vowel sound, is subject to no such influence. It passes into *o* by weakening of articulation, and so down the scale of descent to *u*, *e*, *i*. None of these however rise to *a*, nor do *u*, *e*, *i* rise to *o*. The difference in strength between *a* and *o* was clearly felt, as also between *o* and *u*; but between *u*, *e*, *i* there was no such strongly marked difference, and in their ease the order of descent is sometimes stopped or varied by the influence of neighbouring sounds. Thus *u*, by its affinity to the labial nasal *m*, was retained at an early stage of the language in *sumus*, *volumus*, the vowel which in Sanskrit is *a* (*bharāmas*), and in Greek *o* (*φέρομεν*), sinking generally in Latin to *i* (*ferimus*). To the same influence (of labial *b*) perhaps are due the forms *Hecuba* (older *Hecoba*, Greek 'Εκάβη, and *triumpus* (Greek θριαμβός). *l* however is the sound which, especially when followed by another consonant, had the greatest tendency to produce *u*. Thus *e* rises to *u* in *pulsus* from *pello*, *sepultus* from *sepelio*, ep. *mulgeo*, ἀμέλγω; *stultus*, *stolidus*, *suleus*, ὀλκός, *scopulus*, σκόπελος; *pessulus*, πάσταλος; *crapula*, κραυπάλη. *e* had an especial affinity to *r*¹: so in oblique cases of neuters in *-us* (=Greek *-os*, Sanskrit *-as*), where the *s* becomes *r*, the *u* sinks to *e*, e. g. *funus*, *funeris* (cp. *funes-tus*); *genus*, *generis* (cp. γένεσ-*os*, γένεος). Sometimes *i* rises to *e*, from influence of *r*, e. g. *pulvis*, *pulveris*; and *e* is the commonest vowel in Latin before two consonants or a double consonant (*x*); e. g. *judex*, but *judicis*: *auceps*, but *aucupis*—remaining sometimes where one of the two has been dropped, e. g. *mile(t)s*, *milit-is*, *dive(t)s*, *divitis*. Cp. also the participial forms, *-en(t)s* and *-endus*, the *u* surviving in *euntis*, etc., and in old legal forms, e. g. *jure dicundo*.

i, as the thinnest of vowel sounds, and the point to which all vowel sounds naturally tended to sink, can hardly be said to be the result of assimilation, so much as of the absence of any assimilating tendency which would retain the vowel at an earlier

¹ Roby, 'Latin Grammar,' vol. i. § 39.

Assimilation stage of decline. It seems however to have a certain affinity of Vowels.

for dental sounds; e. g. before *n* in *machina*, *bal(i)nea*, *trutina* (ep. *μηχανή*, *βαλανεῖον*, *τρυτάνη*), and before the suffix *-no* in *dominus*, etc. (ep. with Greek *πιθανός*, *ἰκανός*, etc.); in a large class of genitives in *-inis*, from stems originally in *-on*, e. g. *turbinis*, *imaginis*, *hominis* (old form *hemones*), *Apollinis* (old form *Apolones*); before *t*, *d*, in verbal conjugation, *agite*, *agito* (*ἄγετε*, *ἀγέτω*) *gemitus* (*gemēre*), *domitus* (*domā-re*), *debitus* (*debēre*); or in formations like *candidus*, *frigidus* (*frigē-re*), *morbidus* (*morbo-*).

(2) Assimilation of vowels by other vowels is seen in the tendency of two vowels coming into contact to approach each other. Thus a root vowel *i*, in contact with *a*, *o*, and *u*, becomes *e* in *queam*, *queunt*, *eo*, *eam*, *eundi*, etc., but remains unmodified in forms where there is no such contact, *nequit*, *nequibat*, *imus*, *ibo*. The oblique cases of *is* show the same change. Again, where two vowels are separated by a consonant, the latter (especially *i*) tends to assimilate the former¹. This is seen in many proper names, *Duilius* for *Duellius*, *Lucilius* (*Lucullus*), *Popilius* (*populus*); in derivatives, such as *consilium* (*consul*), *facilis* (*facultas*), *inquilinus* (*incola*). *e* assimilates *o* in *bene* (originally *bono*, then *bone*), *i* in *illecebrae* (root *lic*, of *allicio*); *u* is assimilated by *o* in *soboles* (*suboles*), *e* by *u* in *tugurium* (*teg.*).

Vowel-change:
Dissimilation.

(3) Dissimilation is of less frequent operation, occurring only in some cases where, from whatever cause, the same vowel sound occurred twice, and acting then as a bar to further change. Sometimes the two vowel sounds coalesced into one: thus, when *quom* tended to become *quum*, by substitution of *u* for *o*, the two vowels often coalesced, with the result *cum* (*q* not being written without *u*); but the principle of dissimilation retained the old spelling even in the Augustan age, and we have *quom* or *cum*, *equos* or *ecus*, *linquont* and *lincunt*, etc., indifferently². The same principle operated in retaining the older forms *euntis* rather than *eentis*, *ipsius*, *illius* rather than *ipsiis*, *illiis* (the genitive ending *-us*, Greek *-os*, regularly sinking to

¹ Roby, 'Latin Grammar,' vol. i. § 41.

² See Munro's 'Lucretius,' Introd. to Notes, I. vol. ii. p. 27, 1st ed.).

-is), and in avoiding *eeis* (dat. plur. of *is*), by the form *eis* or *ieis*.

II. *Changes of Consonants*: The respective characteristics of Latin and Greek are here reversed. We have seen that the Latin vowel-system is weaker and has been subject to greater degeneration by phonetic change than the Greek: but the Latin consonants are stronger, and (as will be seen) are comparatively free from assimilation, which obscures the radical form of many Greek words¹. Bearing in mind what has been already said of the relative strength of sounds, and of the general principle which governs all phonetic change—the desire to secure ease of articulation, the following general rules of consonantal change will be intelligible:—

Consonant
change:
General ten-
dencies.

1. ‘Explosive’ (or ‘Momentary’) sounds change to ‘Protracted’ or ‘Fricative’ sounds, not *vice versa*: e. g. *c* (*k*) to *c* (*s*), *centum* to French *cent*; *t* to *s*, *tu*, *τυ*, *συ*; *d* to *l*, *δάκρυ*, *lacruma*, ’Οδυσσεύς, *Ulysses*; *b* to *v*, *habere*, Italian *avere*, French *avoir*; *p* to *v*, *sapere*, *savoir*: *ph*, *ch*, *th*, to *f*², *φέρω*, *fero*, *χολή*, *sel*, *θήρ* (Aeol. *φήρ*), *fera*; *ch* to *h*, *χαμαι*, *humi*, *χανδάνω*, *pre-hendo*.

2. Gutturals change to dentals and labials, not *vice versa*.

3. *Tenuis* change to mediae in their respective classes, not *vice versa* (except where influenced by other sounds), e. g. *frag-*, *frac-tus* (see above, p. 49).

4. Rules (2) and (3) apply most obviously and uniformly to Explosive sounds or Consonants proper. Among ‘protracted’ or momentary sounds it is not so easy to trace definite rules of change. The contact of the vocal organs being less complete, in fact, an approximation only, the sounds are much less definite; and their strength depends more or less upon the length of time during which they are sounded. The spirants *y*, *s*, *v* do not seem to interchange much, but neither *s* nor *v* passes into *y*, which, according to order of pronunciation, would naturally be the strongest sound. Of the liquids, *r* seems to be older than *l*, Greek and Latin often giving *l* where Sanskrit has *r*; and

¹ E. g. in *φράσσω*, as compared with Lat. *fare-io*, see below, p. 75.

² For other examples see Roby, ‘Latin Grammar,’ i. § 99, and Corssen.

Consonant change:
General tendencies.

hence some philologists consider that *l* arises always from a weakening of original *r*, pointing in illustration to the fact that many children are unable to sound *r*, and substitute the easier *l* for it. Schleicher, e. g. ('Compendium,' § 147, 156), refers to *λευκός*, *luc-eo*, from root *ruk* (appearing in Sanskrit as *ruj*): *loc-utus*, *λακ-εῖν*, ep. with Selavonic *rek-a*, 'I speak'; *re-lie-tus*, *λιπ-εῖν*, with Sanskrit *ric*, etc.: but there seem to be other roots in which *l* is invariably found (see Peile, p. 85). And in the Romance languages *l* and *r* interchange both ways; e. g. *peregrinus* becomes *pellegrino*, and *Tibur*, *Tivoli*; but *lus-ciniolus* becomes *rossignuolo*, and *apostolus*, *apôtre*. *s* in Latin always passes to *r* between vowels, except in some cases¹, where *s* is not original but a substitution (e. g. for *ss* in *causa*, for *d* in *esurias*, etc.), or in compounds of words with initial *s* (*desilio*); and in Greek it frequently passes into the *spiritus asper* ('ἄσ, *sal*; ἔδος, *sedes*; ὑλη, *silva*, etc.). This *h* sound in Greek is usually a remnant of one of the spirants, and weaker than any of them; in Latin it represents an original *gh*, and seems to have been more strongly sounded.

We may instance the effects of phonetic change upon consonants, under the same heads as those of vowel-change:—

Consonant change:
Substitution.

(1) *Substitution of weaker for stronger sound.* (a) *media* for *tenuis*, *g* for *k*, *pac-iscor*, *πήγ-νυμι*, *pag-us*, *pango*; *κυβερνάω*, *guberno*; *cureulio* (Plautus), *gurgulio*; *negotium* *nec-*). *t* seldom passes into *d*. In Greek δάπις (Aristoph. *Vespae* 676) perhaps=τάπης; ιέποδες (Hom. Od. iv. 404), perhaps=*nepotes*. In Latin the confusion between *t* and *d* in the MS. spelling of words like *haud*, *apud*, *sed*, is to be referred to the general weakness and uncertainty of Latin final sounds. *p* passes to *b* in a few Greek words (e. g. ὕβρις from ὕέρ), and in rather more Latin (e. g. *carbasus*, *κάρπασος*; *lambo*, *lab-ium*, *λάπτειν*, *λαφύσσω*); and *b* in Latin frequently represents Greek φ, *nebula*, *νέφος*; *orbus*, *δρφανός*; and the suffix *-ber*=-φορος (φέρω), *saluber*, *candela-brum*.

(b) Any further substitution of the mute or explosive sounds, e. g. *t*, *d*, *p*, *b*, belongs rather to the head of Assimilation.

¹ Roby, 'Latin Grammar,' i. § 193.

There are, however, in Latin a few instances of *d* passing into *l* and *r* (probably due to some peculiarity in the Latin pronunciation of *d*, bringing it very near the point at which *l* and *r* were sounded), e. g. *olere* from root *od*, cp. *odor*, ὄδωδα; *lacrima* = δάκρυ (cp. Gothic *tagr*, our ‘tear’); *lēvir* (see Forcellini), = δαFήρ, cp. Sanskrit dēvar. Similarly *lingua* must have been *dingua*, cp. Gothic *tuggō*, German *zunge*, English *tongue*; and Festus states that Livius Andronicus actually wrote *dacrima*¹. The change of *d* to *r* is chiefly found in the preposition *ad*, in composition before *v*, *f*, *arvocatos*, *arfuerunt*, *arvorsum*, *arvena*, *arfines*, etc.; cp. also *arbiter* (*ad-beto*), *arcesso* (*ad-cesso*). This change is sometimes reckoned as an effect of assimilation; but more probably arose from a weak pronunciation of *d*, near the point at which *r* is produced. And the appearance of these words with the *d* in classical Latin seems to show that this carelessness of pronunciation had only just begun to produce an effect upon orthography, when it was checked by the literary epoch of the language; and the inference is, that it was an accidental and isolated phenomenon in the Latin pronunciation of that particular sound.

(c) Changes of *Spirants* (*y*, *s*, *v*). These have especially affected Greek, and in a great measure produced the distinctive feature of accumulation of vowels without a consonant, e. g. δηϊօσ [once δασ-γό-σγο].

Y. There was no symbol for this spirant in the Greek alphabet, no doubt because the sound which we denote by it had disappeared or become changed. It appears in Greek (1) as *i*, especially in the suffix *yo(ω)*; thus ἀνδρέ-ιο-ς, εὐσέβεια (= εὐσέβει-γα), γενέτειρα (= γενέτερ-γα, τετυφύια (= τετύφυσ-γα), δήμοιο (Homeric genitive = δήμο-σγο); (2) as *ε*, in κενεός [Epic form of κεν-*yo*, ‘empty’], and in the contracted future forms, φενξοῦμαι=φενγ-σέο-μαι=φενγ-σγο, the *i* remaining in the Doric form πραξίομες=πραγ-σίο-μες; (3) as the ‘spiritus asper,’ ḥπαρ, *jecur*; ἄγιος, Indo-Eur. *yagyas*;

¹ Bergk suggests that in Ennius' well-known lines (Epigr. i. 4)—

‘Nemo me lacrumis decoret neque funera fletu

Faxit. Cur? volito vivos per ora virum’—

the poet may have written *dacrumis*, which would obviously increase the force of the alliteration.

Consonant
change:
Substitution.

Changes of
Spirants:
Y.

νσμίνη, from root *yudh* (*νθ* becoming *νσ* before *μ*). Or (4) it is altogether lost, as e. g. in Attic genitive *ἴππον=ἴπποο*, cp. with Epic *ἴπποιο*; *πλέον=πλεῖον*, *φύω*=an older *φυίω* (Sanskrit *bhu-ya-*), and *χάλκεος* (Doric)=*χάλκειος*, *ἀλάθεα=ἀλάθεια*.

s. S in Greek usually passes into the *spiritus asper* at the beginning of a word, as we see from many familiar examples where the analogy of other languages shows that the word once began with *σ*. (*ἔδοσ*, *ἐπτά*, *ἐπομαι=sequor*; *ὅσ=σφόσ=suus*.) Sometimes a *spiritus asper* is due to a lost *σ*, which was not initial, e. g. *ειστήκειν=ε-έστήκειν=έ-σεστήκειν* (the root *stu* being reduplicated to *sa-sta*, *σε-στα*); *ἡμεῖς=ἀσμεῖς*, cp. the form *ἄμμεις=ἀσμεις*. At the end of roots and words an original *s* generally retained its place in Greek, and so in formative and case suffixes, being, in fact, one of the few final sounds which Greek euphony tolerated: at the beginning of words also it is sometimes found, e. g. *σιγάω*, *σελήνη*; but only regularly when a hard consonant follows, and protects it from the usual change to *'*, as in *στορέννυμι*, *στοά*, *σχίξω*, etc.

In Latin *s* between two vowels is almost always changed to *r*, e. g. *lares=lases* (Carmen Arvale), *feriae=fesiae* (cp. *festus*); *heri, hesternus, χθές*; *eram, ero*, from stem *es* of *esum*; *gero, ges-tum*; *oneris, generis=ones-is, genes-is*, from stem *onus, genus*; gen. plur. suffix *-rum=an original sam, and r of passive voice=se*. The only exceptions to this general law of change are (a) where *s* is not original, but a substitution for other sounds, e. g. for *ss* in *causa*, for *d* in *esuries (ed-o)*, *ausim* (for *aud-sim*); (b) in compounds of words where *s* was initial, *de-silio, po-situra, prae-sentia, bi-sextus*, etc.; (c) in certain other words, viz. *asinus, basium, caesaries, casa, caseus, cisium, fusus, laser, miser, nasus, pusillus, quasillum, quaeso* (also *quaero*), *rosa, vasa*; and in some proper names, *Caesar, Kaeso, Lausus, Pisa, Sisenna, Sosia*¹.

In Greek, on the other hand, *σ* between two vowels drops out, e. g. *γένεσ-ος, γένεος, γένους, τύπτη-σαι, τύπτεαι, τύπτῃ*; and this is almost universal, except in cases where the loss of *σ* would have created confusion, and an artificial effort was therefore made to

¹ These examples are chiefly from Roby's 'Latin Grammar,' vol. i. § 193.

retain it ; or where, as in *τά-σις*, *ἰστη-σι*, the σ represents an original τ (*τα-τις*, *ἰστη-τι*). In some inflections also like *ἴστασαι*, the tendency to drop σ was resisted ; the intellectual or instinctive desire of retaining the part of a word, which was characteristic of its meaning, in these cases triumphing over the physical tendency to reduce the effort of articulation. Similarly in Latin, the tendency to drop final -*s* seen in the constant change of forms like *amabarisi*, *amaberis*, to *amabare*, *amabere*, is to a great extent resisted in the form *amaris*, because *amare* would lead to confusion with the pres. infin. active ; and *ab* is much seldomer changed in composition than *sub*, because of the danger of confusion with *ad*.

In Latin final -*s* (like final -*m*) seems to have been faintly sounded in pronunciation¹, and thus was often omitted in writing also. In the scansion of early Latin poetry it was ignored before an initial consonant (a fact noticed by Cicero, *Orat.* 48. 161), e. g. *tum lateralis dolor certissimus nuntius mortis*, Ennius 601 (Vahlen), and so often in Lucretius (e. g. i. 159, 186) and once in Catullus (116. 8, Ellis). From Terence Wagner instances in the Hecyra *auctus sit* 334, *defessus sum* 443, *incertus sum* 450, *expertus sum* 489, *nullus sum* 653, *usus sit* 878—all endings of iambic lines. Virgil (*Aen.* xii. 115) in imitating Ennius's *funduntque elatis naribus lucem*, transposes thus (to suit a stricter pronunciation of final *s*) : *lucemque elatis naribus efflant*. The tendency recurred in the fourth century A. D., and remains in Italian, Spanish, etc. It is also, of course, illustrated by such forms as *nauta* (cp. *ναύτης*), *ille*, *ipse* (for *illus*, *ipsus*), *puer*, *famul* (*puerus*, *famulus*), *pote*, *mage* (*potis*, *magis*), *amabare* (*amabarisi*).

V=F. This spirant (pronounced² something like English *w*) was known to the Greeks at an early period by a distinct symbol, the Digamma (*F*), found chiefly upon old Doric and Aeolic inscriptions³, and traceable in its effect upon the scansion

Changes of
Spirants :

¹ Roby, 'Latin Grammar,' § 193.

² On the pronunciation of *u* consonantal (*v*) see Wordsworth, 'Fragments,' etc., Introd. iii. §§ 10-15; Roby, 'Latin Grammar,' Preface, pp. xxxii-xlii.

³ E.g. those of Boeotia, Phocis, Locris, Laconia, Argos, Corinth, Cor-

Changes of
Spirants :
v or *F*.

of Homer; but evidently passing out of use at the earliest period to which such inscriptions carry us back. The Digamma occasionally appears in ordinary classical Greek as *v*, e. g. δύο (Sanskrit dvau, Gothic *tvai*, German *zwei*), and the Aeolic forms χεύω, πνεύω=χέϜω, πνέϜω. In these latter Attic Greek has lost it, as also at the beginning of many words, in which, from the analogy of kindred forms in other languages, it must once have existed (*oἶνος*, *vinum*; *οἶδα*, *ἰδεῖν*, *vid-eo*; ἔργον, German *Werk*, English *work*). It also appears as *spiritus asper* (on the evidence, again, of comparison with other languages), e. g. ἔσπερος, *vesper*; ἔννυμι=ἔσ-νυμι, *res-tis*; ἴστ-τωρ=ἴδ-τορ-, from *ἴδ-* (the verb forms having lost it altogether, and *ἴστωρ* in time coming to have the *spiritus lenis*). In a few cases *v* (*F*) seems to have been hardened or strengthened to β , e. g. the Laconian forms, $\betaέτος$ =ἔτος (cp. Latin *vetus*, *veter-nus*), $\betaέργον$ =Ἕργον; and $\betaούλομαι$, with its various forms, $\betaόλλομαι$ (Aeolic), $\betaώλομαι$ (Doric), the original consonant of which may have been *v* (*F*), ep. *vol-o*, Slavonic *vol-i-ti* (inf.), Gothic *vil-jan*, German *willen*, English *will*; for here the evidence of so many languages for the *v* sound prevents us from regarding Latin *v* as a weakening of β . The occasional confusion between *b* and *v* in Latin, and the representation (chiefly in Plutarch, a Boeotian Greek, and an indifferent Latin scholar) of Latin *v* by Greek β , has been pressed as an argument against the pronunciation of Latin *v* like *w*, and in favour of the labial sound of English *v*. Even in Plutarch, however (1st cent. A.D.), *ov* is almost twice as common as β for Latin *v* (*Οὐαλήριος*, etc.); in Dionysius of Halicarnassus (Augustan age) β is only occasionally found; while in Polybius (2nd cent. B.C.) *ov* is the regular equivalent for *v*. It seems therefore highly probable that the transliteration of *v* by β is connected with a dialectical tendency to confuse *v* and *b* in Latin, which appears in rare cases like *ferveo*, *ferbui*, and afterwards more commonly on inscriptions of the 2nd century A. D. and onwards. The *v* in all such cases was

cyra, etc. (Kirchhoff.) The Romans, taking a Doric alphabet (see p. 46), found this character, but changed its value, thinking the *w* sound sufficiently represented by *V*.

possibly the ‘labial *v*¹,’ passing irregularly but not permanently into *b*: and the safest conclusion from the evidence of transliteration appears to be that Latin *v* generally = *w*, but sometimes dialectically a labial *v*². The substitution of *μ* and *γ* for *f* is also assumed in a few cases, of very uncertain etymology; e. g. *μόσχος*, *στρατός*, *ἀμφήνη*, *αὐχήνη*, *μελδομαι*, *ἐλδομαι*, etc.

In Latin, just as *y* is represented by *i* (consonantal), and sometimes disappears (e. g. in *min(i)or*, *ero=esio*), so *v* is represented by *u* (consonantal), and sometimes disappears as in *s(v)ibi*, *t(v)ibi* (roots *sva-*, *tva-*). It is also occasionally represented by *f*, e. g. *frango*, *Fράγνυμι*; *frigus*, *Fριγέω*; and the sign F is of course the old digamma, adopted by the Latins, but to denote a different sound.

(d) Changes of the *Aspirates*, especially the aspirated mediae ^{Changes of Aspirates.} *bh*, *dh*, *gh* in Latin. General rules:—These aspirates (*gh*, *dh*, *bh*), when they occur in the middle of a word, are generally represented by the corresponding unaspirated letters; when initial they can all be represented by the single sound *f*. This sound is not itself an aspirate, and has e. g. no power of assimilating a preceding nasal like the other mutes in Latin (*in-ficio*, but *im-petus*), so that it may be different in sound from Greek *φ* (*ἔμφαίνω*). Priscian’s account of the difference between the two, that *ph* is pronounced ‘fixis’ and *f* ‘non fixis labris,’ is explained by some to mean that *ph* is an explosive or momentary, *f* a fricative or protracted, sound. If this be true, *f* must be considered as only a *spirant* or *breathing*, pronounced with a strong breath, and taking the place of *h* strongly sounded after *b*, *d*, *g*, the distinction between these letters being obscured, and only one part of the respective combinations *b+h*, *d+h*,

¹ Labial (as distinguished from labiodental or English) *v* is formed by bringing the outer edges of the lips together, while the voice escapes laterally. This sound is said to be heard in Central Germany (e. g. in *weg*), and in Spanish *b*, and modern Greek *β* (Peile, ch. iv. p. 80. 3rd ed.).

² For an admirably full discussion of the pronunciation of Latin *v*, see Roby’s ‘Latin Grammar,’ vol. i., Preface, pp. xxxii–xlvi; and ep. Peile, ch. viii. pp. 355–357. Corssen (‘Aussprache,’ i. p. 310 sqq.) maintains that *v* had not a ‘weak vowel sound like English *w*, but a consonantal tone like German *w*’—meaning the labiodental sound of English *v*. He much exaggerates, however, the extent to which *β* represented Latin *v* (see Roby, *l. c.*).

Changes of Aspirates.

g + h being retained. At the beginning of a word the first part of each fell away, leaving only the latter under the form of *f* (or *h*): in the middle of a word, Latin generally retained the first part and the latter or aspirate fell away. We thus have *f=bh* in *fari*, root *bhā*, whence *phávai*; *fui*, root *bhu*, whence *-bo*, *-bam* of future and imperfect: *f=dh* in *firmus*, root *dhar*; *fores*, root *dhvār*, whence Sanskrit *dvāra*, Greek *θύρα*, German *Thür*, English *door*: *f=gh* in *fa-mes*, *χα-tis* (Sanskrit *ja-hā-mi*); *fons*, root *fu* = Greek *χν* in *ε-χύ-θην* and forms of *χέφω*, = originally *ghu*, ep. Gothic *giutan*=German *giessen* (whence ‘Giessbach’ the name of a waterfall); *formus*, ‘warm’=Sanskrit *ghar-mas*, Greek *θερμός*; *fel*=Greek *χολή*. *f* also = Greek *θ* in *femina*, *θηλυς*, *fera*, *θήρ*, and in other words, in some of which however it and the *θ* may represent an original *dh*, as in *fores*. In some cases, side by side with the form in which the aspirate has sunk to *f*, is found another with *h*, used in the classical dialect; thus *haedus*, Sabine *foedus* [originally *gh*, the *g* remaining in ‘goat’]; *hariolus*, Sabine *fariolus* (Greek *χορδή*). So *hircus*, *circus*; *hostis*, *fostis* (root *ghas*, in Gothic *gas-t-s*, English *guest*): and *fordicum*, *foedos*, attributed by Quintilian (i. 4. 14) to the old Romans.

F occurs most frequently as representative of *bh*, with which it has the labial element in common; less often of *dh*, with which it has only the use of the upper teeth in common; least often of *gh*, with which its only connection appears to be, as already mentioned, the strong breath with which it and the *h* of *gh* were each pronounced.

Consonant change:
Loss.

(2) Loss of Consonantal Sounds:—

(a) Initial sounds. *s* and *v* (*f*) are most frequently subject to loss in both Greek and Latin, especially before the nasals *m*, *n* and liquids *l*, *r*. Thus *μέμινα*, ep. Sanskrit *smar-ā-mi*, ‘I remember;’ *ννός*, ep. Old High German *snur*; *ρέω*, root *ρν*=*σρν* (the *s* appearing in *stream*, *strom*, etc., and in the first *ρ* of *ἔρρευστα*, *ἔρρηντα*, etc. by assimilation from *ε-σρευ-στα*, *ε-σρύ-ηντα*); show a loss of initial *σ* in Greek. In Latin, again, no native word begins with *sm*, *sn*, or *sr*, and even borrowed words sometimes lose the *s*, e. g. *myrrha*=*σμύρνα*; ep. *funda*, *σφενδόνη*,

fides (a string), *σφίδη*, *fallo*, *σφάλλω*, etc.¹ *v* (*F*) is lost before *p* in Consonant change: *phiča* (German *Wurzel*, English *wort*), and *ρήγνυμι*, Latin *frango* Loss. (where the *F* was a weakening of an earlier *bh*, traceable in Gothic *brikan*, English *break*); and before vowels in all cases where it has not passed into the *spiritus asper*—e. g. *οἶνος*, *vinum*, *οἶκος*, *vicus*, *ἔργον*, *work*, *ἰδ-εῖν*, *vid-ere*, etc., etc.

Loss of other consonantal sounds, when initial, is generally ‘sporadic,’ i. e. confined to stray instances, which do not offer sufficient evidence of any general phonetic tendency—e. g. the loss of *c* in *ubi*, *unde*, preserved in *ali-cubi*, *ali-cunde*.²

(b) Medial sounds are rarely lost in Greek, except in avoiding difficult or impossible combinations of sounds, such as would be *τετυφ-σθε*, *ἐσταλνται* (Ionic *ἐστάλαται*). The notion that *τ* falls out in the oblique cases of certain nouns, e. g. *κέρα(τ)-os*, and in the 3 sing. of verbs (*τύπτει=τυπτε-τι*)³, is no longer regarded as a probable explanation. In Latin, medial sounds are more often lost. Corssen and Schleicher give a number of examples of such loss, chiefly before spirants and nasals, e. g. *miles* = *militis*, *cesor cosol* = *censor consul*; *ma(g)-iōr*, *pe(r)-iēro*; *re(s)mus* = *retmus*, Greek *ἔρεμός*; *exa(g)-men*, *de(c)-nus*, *po(s)-no* (cp. *pos-uī*). Before momentary sounds such loss is rare except before dentals—e. g. *tor(c) tus* (*torq-ueo*), *ul(c)-tus*, *ju(s)-dex*, *i(s)dem*. Schleicher considers that in all or most of these and similar examples the lost letter has first been *assimilated*, and then omitted, from the practice in old Latin of not writing the same consonant twice⁴: e. g. *res-mus*, *rem-mus*, *remus*: an ingenious attempt to bring under a uniform rule a number of scattered examples, which may or may not be true, but is hardly capable of proof.

(c) Loss of Final Sounds, i. e. of the consonant or consonants of the final syllable. The tendency of many languages to throw

¹ Corssen ('Kritische Beiträge,' p. 428) suggests that *Roma=Srouma* (root *sru*), the 'stream-town'; a term applicable to the old 'Roma quadrata' on the Palatine Hill, before the Tiber was kept within its banks. This of course is but one among a number of competing etymologies for the name.

² Other examples are given by Peile, ch. viii. pp. 370-1; and Corssen ('Kritische Beiträge,' pp. 2, 57-64, 142).

³ See below, ch. viii.

⁴ On double consonants in Latin, see above.

Consonant
change:
Loss.

back the accent from the final syllable, gave this syllable a weaker pronunciation, and made it liable to phonetic corruption, the extent of such corruption varying in different languages with the inability to accent the final syllable. Thus in Latin, which never accents the final syllable, there is more extensive loss of final consonantal sounds than in Sanskrit or Greek: just as we have already seen that its final vowel sounds are peculiarly liable to corruption, either by the shortening of sounds originally long, or by total loss. The operation of this common tendency to weaken or drop difficult sounds in final unaccented syllables varies with the phonetic laws of individual languages by which certain final sounds are accepted or rejected. The Greek ear, for example, allowed no consonantal sound to end a word but *v*, *s*, and less frequently *p*; the only exceptions being *oὐκ* and *ἐκ* (*ξ* or *ψ* of course include *σ*): and when any other consonant appears etymologically at the end of a word it is usually rejected—e. g. *μελι*=stem *μελιτ*, as seen in *μελιτ-os*, *σῶμα*=*σωματ-* (*σώματ-os*), *ἥσαν*, Latin *erant*, and all participles in *-ων*, the stem of which is *-ωντ*, as in oblique cases *τύπτοντ-os*. In Latin *-nt* is an admissible final sound (*amant*, *erant*, etc.), though in participles *t* is changed to *s* in the nominative sing. (*amans*, *amantes*): and the different treatment in the two languages of this participial stem termination *-nt* is a good illustration of the direction given to general tendencies of phonetic change by the phonetic laws of individual languages. The paucity of admissible final sounds in Greek leads also to corruption of the final syllable even when accented, e. g. *τιθεῖς*=*τιθεντς*. In Latin, as has been shown, the tendency is for the final vowel to sink to a uniform sound of *e*, but there is considerable variety of consonantal termination: *s*, *m*, *t*, *r*, *c*, *d* being all found, besides many combinations impossible to Greek (which avoids the accumulation of consonants at the end of a word), e. g. in *ferunt*, *hunc*, *volt*, *fert*, *scrobs*, *ars*, *puls*, *hiemps*. Almost any combination, in fact, that could be pronounced was allowed, with the exception of double consonants (e. g. *oss-is*, but nominative *os*; *fellis*, *fel*) or two explosive mutes, e. g. *lact-is*, *lae*; *cord-is*, *cor*. As

far then as the language of the classical Roman writers is concerned, there is less deterioration of final consonantal sounds than in Greek : but there is good reason for supposing that in the pronunciation of ordinary life, in the spoken language of which the plays of Plautus and Terence are the chief written representatives, ‘neglect of final sounds¹’ was more the rule than the exception ; so much so, that upon old inscriptions they are often actually omitted. This is most often the case with the most common final letters *s*, *m*, *t*. The case of final *s* has already been noticed (p. 67) under the changes of spirants.

Final *m*, as is evident from its regular disregard in Latin poetry, must have been weakly pronounced ; and this is confirmed by the statements of grammarians, and the evidence of early inscriptions, on which we find such forms as *oīno* (*unum*), *vīro* (*virum*), etc. (cp. Appendix I. Inser. i. 2), and *dono dedit=donum dedit*. The omission is however rare in *legal* inscriptions, where greater accuracy was desirable, and in others after 130 B.C., when literature began to insist on precision of grammar and form ; but is found in the vulgar wall inscriptions at Pompeii, and towards the end of the third century A.D. becomes frequent again. The Italian forms *meco*, *dieci* (*mecum*, *decem*) and the like, show how completely it must have become ignored in pronunciation in the later Empire : and the history above sketched of its appearance on inscriptions shows how the natural tendency of pronunciation towards phonetic decay was checked for a while during the predominance of a classical literary dialect, only to assert itself more completely in the end.

(3) Consonantal Change—Assimilation.

Consonant
change :
Assimila-
tion.

Sounds which require very different positions of the vocal organs, or which are respectively *tenues* and *mediae* (see above, ch. iii. p. 32) are obviously difficult to pronounce close together ; and when two such incompatible sounds would otherwise come together, the principle of euphony operates to produce such a change in one or the other of the two sounds as will make them easy to pronounce in close contact. These

¹ See Wagner, Introd. to *Aulul.*, pp. xxix–xxxv, and my Introduction, IV. to Terence, *Andria*.

Consonant
change:
Assimila-
tion.

changes are included under the general head of ‘Assimilation,’ by which is implied the change of one of two neighbouring sounds to a sound either the same as or sufficiently like the other to be ‘compatible’ with it, and therefore easy of pronunciation in close contact. It may indeed happen that the recurrence of the *same* sound twice is unpleasant to the ear, in which case euphony requires ‘Dissimilation,’ or change to a sound different from, but compatible with, the sound whose repetition offends: but as there are naturally but few cases in which such repetition of the same sound is unpleasant, Dissimilation plays but a limited part in phonetic change.

Assimilation is either (*a*) of the first sound to the latter (*regressive assimilation*); or (*b*) of the second sound to the first (*progressive assimilation*); or the two sounds pass into (*c*) a third (doubled) sound; or (*d*) into a single letter. It is also (*1*) complete, where the assimilated letter becomes the same as the other; (*2*) partial or incomplete, where it passes into a similar sound.

Regressive assimilation preponderates in Indo-European languages: progressive assimilation in Ural-Altaic (Turanian) languages. This difference is ascribed by some (e. g. Sievers, ‘Lautphysiologie,’ p. 137) to the difference of accentuation in the two families; Indo-European in its earliest stage mostly accenting the final syllable, Ural-Altaic the first syllable of a word.

Complete
Assimila-
tion.

(*1*) Complete Assimilation:—

(*a*) Of the first to the second sound.—In Greek σ to ν or μ , e. g. $\epsilon\nu\nu\mu\iota = \acute{\epsilon}\sigma-\nu\mu\iota$ (*ves-tis*), $\acute{\epsilon}\mu\mu\iota$ (Aeol.) = $\acute{\epsilon}\sigma-\mu\iota$, $\ddot{\alpha}\mu\mu\epsilon s$ (Dor. and Aeol.) = $\ddot{\alpha}-\sigma\mu\epsilon s = \dot{\eta}\mu\epsilon i s$: labials to nasals, $\ddot{\alpha}\mu\mu\alpha = \ddot{\alpha}\pi-\mu\alpha$, $\gamma\rho\acute{\alpha}\mu\mu\alpha = \gamma\rho\acute{\alpha}\phi-\mu\alpha$, $\tau\acute{\epsilon}\tau\mu\mu\alpha = \tau\acute{\epsilon}\tau\phi-\mu\alpha$: nasals to liquids (especially $\sigma\nu$ and $\acute{\epsilon}\nu$ in composition)— $\sigma\upsilon\lambda\alpha\beta\acute{\alpha}\nu\omega$, $\sigma\nu\rho\acute{\epsilon}\omega$, etc. So $\pi\sigma\sigma\iota$ (Epic) = $\pi\sigma\delta-\sigma\iota$. In Latin¹ *summus* = *sup-mus*, *flamma* = *flag-ma* (*flagrare*), *puella* = *puer(u)la*, *esse* = *ed-se* (*edo*): and so with prepositions in composition: *ad* in *appello*, *aggero*, etc., *ob* in *occurro*, *officio*, etc. *sub* in *summoveo*, etc., *ec-(εκ)* in *effero*, etc., *dis* in *diffugio*, etc., *com* in *corrugo*, etc.

(*b*) Of the second to the first sound.—In Greek (chiefly in Aeolic forms): $\kappa\tau\acute{\epsilon}\nu\omega = \kappa\tau\epsilon\nu\gamma\omega$, $\acute{\epsilon}\sigma\tau\epsilon\lambda\lambda\alpha = \acute{\epsilon}\sigma\tau\epsilon\lambda-\sigma\alpha$, $\acute{\epsilon}\nu\epsilon\mu\mu\alpha =$

Other examples are given by Roby, ‘Latin Grammar,’ § 34.

ἐνερπσα. In Attic *ἴππος*=*ἵππος*, cp. *ἴκκος*=*ίκκος* (Sanskrit *açvas*). Consonant change: In Latin *issimus*=*is-tumus*¹: so *celerrimus*, *facillimus*=*celer-timus*, *facil-tumus*: *ferrem*, *vellem*=*fer-sem*, *vel-sem*. Assimilation.

(c) The two sounds pass into a (double letter) third sound. In Greek the sound $\sigma\sigma$ (or $\tau\tau$)² seems in many cases to have arisen from the combination of the *y* sound with dental and guttural mutes (i.e. from τy , θy , κy , γy , χy). Thus with dentals we have *κρέσσων*=*κρετ-yων* (*κράτ-os*), *λίσσωμα*=*λιτ-yομα* (*λιτ-ή*), *κορύσσω*=*κορυθ-yω*. In these and similar cases the *y* probably, through influence of the preceding dental, passed into the dental sibilant σ (*s* in ‘sits’), which then was either assimilated by, or assimilated, the preceding dental: e.g. *λιτ-yομα* became *λιτ-σο-μα*, which, by regressive assimilation, (a) became *λισσομα*, or by progressive (b) *λιττομα*. With gutturals, the *y* sound changed the guttural to a dental (Dentalism, see above, p. 50), which then produced the result just described. Thus *ἥσσων*, *ἔλασσων*=*ἥκ-yων*, *ἔλαχ-ιων* (cp. *ἥκ-ιστος*, *ἔλάχ-ιστος*), *ἄνασσα*=*ἀνακύα*, *ὅσσα*=*ὅκυα*, *vox*; *πέσσω*=*πεκγω* (root *πεκ*, *coq.*), and so with many verbs whose present tense ends in *-σσω*, but the stem in a guttural—e.g. *πράσσω*, (*πραγ-*), *φράσσω* (*φρακ-*, Latin *farc-iō*), *πτύσσω* (*πτυχ-ή*), *ἀλλάσσω* (*ἀλλαγ-ή*), *κηρύσσω* (*κήρ-υκ-os*), *τάσσω* (*ταγ-ός*), *λεύσσω* (*λευκ-ός*), *πτήσσω* (*ἐπτακ-ον*), *ταράσσω* (*ταραχ-ή*).

In Latin the *t* of the suffixes *-tus* (participial) and *-tor* with the final letter of the root (especially if a dental) passes into *ss*, e.g. *fissus*=*fid-tus*, *cassus* (Cic.)=*cad-tus*, *divissum* (Cie.)=*divid-tum*, *fossor*=*fod-tor*. As to the exact process of the change, there are two different views:—(1) Corssen, Schleicher, Curtius, and other leading philologists, assume that it is the result of *progressive assimilation*, the dental of the root being first weakened to *s* (because the Roman ear did not tolerate two dental mutes coming together), and the following *t* assimilated to this *s*; the change of *t* to *s* in cases like *mer-sum*, *lap-sum*, etc., where there is no dental at the end of the stem,

¹ On this and a rival explanation see below, ch. vi.

² On the origin of $\sigma\sigma$ ($\tau\tau$) see Peile, ch. viii pp. 387–390. A fuller, but (the book being out of print) less accessible discussion of the point is given by Curtius, ‘Tempora und Modi,’ pp. 99–110 (on the formation of verbs in *-σσω*, *-ττω*).

Consonant
change :
Assimila-
tion.

being due to false analogy. (2) The other view (expounded by Mr. Roby in the Preface to his Latin Grammar, pp. lvii-lxi) is that *tt*, *dt* became first *ts*, *ds*, and then *ss* or *s*; this second change being due to the fact that *ts*, *ds* were in Latin ‘unstable’ combinations likely to be soon changed, whereas *st* (the assumed result of the first stage in the process of change of *tt*, *dt* on the other view) is a perfectly ‘stable’ sound, easy to pronounce and very common in Latin, for any further change of which there would be no phonetic reason. If, for example, *tund-tum* had (as on the other view) become *tons-tum*, this latter need have undergone no farther change (except perhaps to *tost-tum*, which in fact did result from *tors-tum*, the supine of *torreo*, stem *tors-*)¹. Other arguments urged against the first view, are (a) that it does not account (except on the arbitrary supposition of ‘false analogy’) for the supine in *-sum* from stems ending in *lg*, *rg*, *ll*, *rr*,—*cursum* (*curr-o*), *mul-sum*=*mulg-tum*, etc., and from a few other verbs (*labor*, *jubeo*, *premo*, *maneo*, *haereo*, etc.) whose perfect active is found with *-si*: (b) that the progressive assimilation which it supposes, though possible, is very rare in Latin; (c) that stems originally ending in *s* do not follow the prescribed change from *st* to *ss*: e.g. *ges-tum* does not become *gessum*.

(d) Two sounds coalesce into one letter in Greek, when dental and guttural mediae (δ , γ) are followed by *y*: e.g. $\varepsilon\zeta\mu\alpha i=\epsilon\delta-yo-\mu\alpha i$ (root *sed-* as in Latin), $\ddot{\varepsilon}\zeta\omega$ (root *oδ-*), $\sigma\chi\iota\zeta\omega=\sigma\chi\iota\delta-y\omega$ (cp. Latin *scid-* in *scindo*), $\zeta\epsilon\upsilon s=\Delta\gamma\epsilon\upsilon s$, Sanskrit Dyāus . ζ is thus a compound letter= δy and then δs , s being the weak sibilant (*z*), and hence in prosody lengthens a preceding short vowel. As with *ky* (see above, p. 75) so *yy* became δy , and this ζ : thus $\sigma\alpha\lambda\pi\iota\zeta\omega=\sigma\alpha\lambda\pi\iota y\omega$, $\sigma\phi\acute{\alpha}\zeta\omega=\sigma\phi\acute{\alpha}y\omega$ (stem as in 2 aor. $\epsilon\sigma\phi\acute{\alpha}y-\eta\nu$), $\pi\epsilon\xi\acute{o}s$ is $\pi\epsilon\delta-i\acute{o}s$, $\rho\acute{i}\zeta\alpha$ is $\mathcal{F}\rho\acute{i}\delta y\alpha$, $\phi\acute{r}\alpha\zeta\omega$ is $\phi\acute{r}\alpha\delta-y\omega$ ($\pi\acute{\epsilon}\cdot\phi\acute{r}\alpha\delta-ov$). In the Boeotian dialect *y* was assimilated to δ , producing $\delta\delta$ —e.g. $\phi\acute{r}\alpha\delta-\delta\omega$, $\sigma\alpha\lambda\pi\iota\delta\delta\omega$ —or δ initial, $\Delta\epsilon\upsilon s$, $Z\epsilon\upsilon s$.

Incomplete
Assimila-
tion.

(2) Incomplete Assimilation:—

(a) Where the two sounds only approximate to each other, the change not being so fully carried out. This includes

¹ Mr. Peile (Introduction, p. 396) prefers this view to Corssen’s.

(a) all those ‘euphonic’ changes by which the final letter of a root or stem is made to correspond with the first letter of a termination either as tenuis, media, or aspirate—
 it being easier to sound two tenues, two mediae, or two aspirates together. Thus in Greek before dental tenues, mediae, or aspirates (τ , δ , θ) only tenues, mediae, or aspirates respectively of other organs can stand; and the only allowable combinations are $\kappa\tau$, $\pi\tau$, $\gamma\delta$, $\beta\delta$, $\chi\theta$, $\phi\theta$. Consequently we have from $\pi\lambda\epsilon\kappa\omega$, $\pi\lambda\epsilon\chi\theta\eta\nu$ not $\pi\lambda\epsilon\kappa\theta\eta\nu$: from $\lambda\epsilon\gamma\omega$, $\lambda\epsilon\kappa\tau\omega$ not $\lambda\epsilon\gamma\tau\omega$, $\lambda\epsilon\chi\theta\eta\nu$ not $\lambda\epsilon\gamma\theta\eta\nu$: from $\delta\epsilon\chi\omega$, $\delta\epsilon\kappa\tau\omega$ not $\delta\epsilon\chi\tau\omega$: from $\gamma\rho\alpha\phi\omega$, $\gamma\rho\alpha\pi\tau\omega$ not $\gamma\rho\alpha\phi\tau\omega$, $\gamma\rho\alpha\beta\delta\eta\nu$ not $\gamma\rho\alpha\phi\delta\eta\nu$. So in Latin from *ago* we have *actus* not *ag-tus*: from *traho*, *tractus* not *trah-tus*: from *lego*, *lectus* not *leg-tus*. In most of these cases, actual pronunciation of the words will make the phonetic reason for the change clear.

Before the tenuis σ , γ and χ become κ , and β and ϕ become π : $\kappa\sigma$ is then written ξ , and $\pi\sigma$, ψ . Thus from $\ddot{\alpha}\gamma\omega$, $\dot{\alpha}\gamma\sigma\omega$ becomes $\dot{\alpha}\kappa\sigma\omega$ ($\ddot{\alpha}\xi\omega$), ep. *reksi* (*rexi*)=*reg-si* from *rego*: $\delta\epsilon\chi\omega$, $\delta\epsilon\kappa\sigma\omega$ ($\delta\epsilon\xi\omega$), ep. *traxi*=*trah-si* from *traho*: and so too with the futures of $\tau\rho\acute{\iota}\beta\omega$ and $\gamma\rho\acute{\iota}\phi\omega$, or perfect of *scribo*.

(b) Nasals often influence the preceding sound. Thus in Greek before μ a *guttural* tends to become γ , a *dental* to become σ (the dental spirant). So we find $\delta\iota\omega\gamma\mu\omega$ not $\delta\iota\omega\kappa\mu\omega$ ($\delta\iota\omega\kappa\omega$), $\beta\acute{\epsilon}\beta\rho\epsilon\gamma\mu\omega$ not $\beta\acute{\epsilon}\beta\rho\epsilon\chi\mu\omega$ ($\beta\acute{\epsilon}\chi\omega$), $\iota\sigma\text{-}\mu\epsilon\nu$ (Attic) for $\iota\delta\text{-}\mu\epsilon\nu$ ($\sqrt{F}\iota\delta$ of $\text{o}\bar{\iota}\delta\alpha$), $\eta\mu\sigma\text{-}\mu\omega$ not $\eta\mu\tau\text{-}\mu\omega$ ($\dot{\alpha}\mu\tau\omega$), $\pi\acute{\epsilon}\pi\epsilon\iota\sigma\mu\omega$ not $\pi\acute{\epsilon}\pi\epsilon\iota\theta\omega$ ($\pi\acute{\epsilon}\theta\omega$). A labial before μ becomes μ by complete assimilation (see above, p. 74). In Latin *som-nus*=*sop-nus*, *Samnium*=*Sal(i)nium*. Nasals again are affected by a following consonant: thus in Greek ν before gutturals becomes the guttural nasal γ ($\sigma\gamma\kappa\alpha\lambda\epsilon\omega$ for $\sigma\gamma\kappa\alpha\lambda\epsilon\omega$); and the labial nasal μ before labials ($\xi\mu\pi\epsilon\iota\sigma\omega$, $\xi\mu\psi\upsilon\chi\omega$); before liquids, as we have seen, it is completely assimilated (p. 74). So in Latin *n* before a labial mute or nasal became *m* (*impello*, *imbuo*, *immotus*), though this tendency of pronunciation did not at once affect the orthography of classical Latin¹.

¹ On this point see Munro’s ‘Lucretius,’ Introd. to Notes, I. (vol. ii. p. 26, 1st ed.).

Change of *t*
to *s*.

(c) The change of τ to σ before i in all Greek dialects but Doric [e. g. in 3 singular $-\tau i$, $\phi\eta\tau i$, Doric $\phi\tau\acute{\alpha}i$, ep. $\epsilon\sigma\tau i$; in abstract substantives in $-\sigma i-s=\tau i-s$, $\phi\acute{a}\sigma i s$, Homer and tragedians $\phi\acute{a}\tau i s$; when suffix ya , io follows τ , e. g. $\pi\lambda\omega\sigma-i\omega s$ from $\pi\lambda\omega\tau-o s$, $\epsilon\iota\mu\acute{a}\sigma-i\omega s$, $\gamma\epsilon\rho\omega\sigma-i\omega s=\gamma\epsilon\rho\omega\tau-i\omega s$; and in forms like $\epsilon\iota\kappa\sigma i$, Doric $\bar{\epsilon}\iota\kappa\tau i$, Sanskrit $vin\dot{c}ati$, Latin $viginti$, and 3 plural $\phi\acute{e}\rho\omega\sigma i=\phi\acute{e}\rho\omega\sigma i=\phi\acute{e}\rho\omega\tau i$ (Doric)] is perhaps a case of assimilation, occurring first in cases where i with a vowel following represented the semi-vowel y sound (e. g. $\pi\lambda\omega\sigma-i\omega s=\pi\lambda\omega\tau-yo-s$) and exercised an assibilating influence upon t , and then extended to all cases of τ followed by i , in a preference for the softer sound σ . A similar change of θ to σ before i in the Laconian and Boeotian dialects is evidenced by Aristophanes (*Lysistrata* 86 $\nu\alpha\tau\tau\omega\sigma i\omega$, ep. also *Ach.* 906). Similarly in late Latin, and in the modern languages derived from it, i following t , c , d , g assilated the preceding consonant, so that by the seventh century A. D. $-tio$, $-cio$ were both pronounced $-sho$ (whence our pronunciation of words like *nation*, *musician*). The Italians, again, pronounce ci like English *ch*, gi as *j*, and have *Marzo* from *Martius*, *palazzo* from *palatium*, *mezzo* from *medius*; while the French have assilated c before other vowels also, e. g. *chambre* from *camera*. This assilation of ci , ti is sometimes assumed to have taken place in classical times, from the confusion between $-cio$ and $-tio$ found in the MS. spelling of such words as *condicio*; this confusion being further applied as an argument for the soft pronunciation of Latin c before i^1 . But this variety of spelling in MSS. is due partly to doubts as to etymology, partly to the assilation of ci , ti in popular pronunciation at the time when the extant MSS. were written. Inscriptions (by far the most trustworthy guide in orthography) show no such variety of spelling till comparatively late times, the change of ci and interchange of ci and ti not appearing much before the seventh century A. D., and then chiefly in Gallic inscriptions. The change of ti (to si) was earlier and more general in the vulgar Latin and other

¹ Roby, 'Latin Grammar,' Preface, pp. xlvi-1; Wordsworth, 'Fragments,' Introd. iii. §§ 23-26.

Italian dialects ; but (according to Corssen, who has gone most elaborately into the evidence¹) it was not established in the speech of educated Romans till the fourth century A. D., though traceable much earlier in isolated forms, e. g. *Acherunsius* for *Acheruntios*, *Hortensius* (in old Latin *Hortentius*), and many names of towns in *-usio*, *-esio*, cp. with others in *-entio*, *-untio*; compare also *viciens* from *vicesiens* = *vicensiens* for *vicentiens*. There is no variety, in the most trustworthy inscriptions of earlier periods, in the spelling of such words as *dicio*, *condicio*, *solacium*, *patricius*, *tribunicius*, *contio*, *nuntius*, *indutiae*, *otium*, *negotium*, *setius*.

(4) Dissimilation.

Dissimilation, or the euphonic change of one of two similar sounds whose concurrence displeases the ear, is, as has been said, of comparatively rare occurrence. One regular case in both Greek and Latin is the change of a dental mute before another dental mute at the beginning of a suffix; $\tau\tau$, $\delta\tau$, and $\theta\tau$ becoming $\sigma\tau$; $\tau\theta$, $\delta\theta$, $\theta\theta$ becoming $\sigma\theta$. Thus $\alpha\nu\sigma\tau\circ s=\alpha\nu\tau-\tau\circ s$ ($\grave{\alpha}\nu\tau\omega$); $\iota\sigma\tau\omega\rho=F\dot{\iota}\delta\tau\omega\rho$; $\pi\iota\sigma\tau\circ s=\pi\iota\theta\tau\circ s$, $\pi\iota\theta-\theta\circ s$: in Latin *claustrum* = *claud-trum*, *equester* = *equit-ter*, *est* = *ed-ti* (*edo*). In Greek, again, one of two aspirate sounds close together is often dissimilated: e. g. $\theta\iota-\theta\eta\mu$ becomes $\tau\iota-\theta\eta\mu$, $\epsilon-\theta\iota-\theta\eta\nu$ becomes $\epsilon\tau\iota\theta\eta\nu$, and $-\theta\iota$ of imperative $\kappa\lambda\bar{v}\theta\iota$ becomes $\tau\iota$ from the preceding aspirate in $\tau\iota\phi\theta\eta\tau\iota$, $\sigma\omega\theta\eta\tau\iota$. In the reduplicated syllable of verbs beginning with two consonants, the consonant sound is lost (e. g. $\epsilon\kappa\tau\circ v\alpha$ for $\kappa\epsilon-\kappa\tau\circ v\alpha$, $\epsilon\gamma\eta\omega\kappa\alpha$ for $\gamma\epsilon\gamma\eta\omega\kappa\alpha$) probably from the tendency to Dissimilation. Lastly, in Latin the termination *-alis* is changed to *-aris* when an *l* precedes: e. g. *mortalis*, *lateralis*, but *puellaris*, *popularis*, *volgaris*; and *Parilia* a variety of *Palilia* (*Pales*).

Besides the changes which result in the substitution of a weaker for a stronger sound, there are others which seem to be due to *indistinctness* of utterance, in the pronunciation of words without sufficient clearness and sharpness to give each letter its proper sound. ‘In this case,’ says Mr. Peile, ‘no other recognised letter is at first heard; but an indefinite

¹ ‘Ueber Aussprache,’ etc., i. pp. 46–67.

Consonant
change:
Assimila-
tion.

Consonant
changes:
Dissimila-
tion.

Consonant
change:
Assimila-
tion.

amount of indistinct sound is produced after the letter thus slurred; which in time, if this relaxed pronunciation become common, often takes the form of the nearest sound in the existing alphabet. Thus two letters grow out of one; and a word is often actually increased.' As examples of this introduction of additional sound through indistinct pronunciation, we have (following Peile's enumeration), (1) 'Labialism,' the change from *k* to *p*, (2) 'Dentalism,' the change from *k* to *t*

Parasitic d before y or i. [for both these phenomena see above, pp. 50, 51]. (3) The insertion of a parasitic *d* before *y* or *i*. *dy*, we have already seen (p. 76), becomes ζ by partial assimilation of *y* to the weak dental spirant *z*: and when we find in Greek $\xi\gamma\acute{o}\nu$, but in all the cognate languages *y* of root *yug* or its regular substitute, the conclusion seems warranted that somehow or other a *d* sound, not radical, became heard before the *y*, and that thus this combination *dy* was avoided by passing to ζ , as in the cases already noticed. Curtius ('Griechische Etymologie,' p. 551 sq. second edition) gives examples of various forms arising, as he thinks, from the combination of *y* with a parasitic *d* arising from indistinct articulation: e. g. (a) ζ in $\xi\gamma\acute{o}\nu$, in $\xi\eta\mu\acute{a}$ (root *yam*), in $\xi\omega\mu\acute{o}$ and $\xi\acute{\omega}\mu\eta$ (Sanskrit *yūsha*, Latin *iuis*), in none of which is δ radical. The double verb forms *-a $\zeta\omega$* , *-a ω* are also explained by Curtius on the same principle: *-a ω* being a variation from *ay ω* with the loss of *y*, it is assumed that before *y* fell out it may have given rise to a parasitic δ —a very ingenious and not impossible explanation. (b) $\delta\iota$, in the adjectival termination *-διο-* ς , which Curtius regards as arising from the common *-ιο-* or *-yo-*; this termination *-διο-* being always preceded by a vowel, after which the sounds *ιο* would be difficult to pronounce clearly. (Others, however, consider that *-διο-* is weakened from original *-τyo-*: and the etymology is at best very doubtful.) The same applies to a few terminations in *-δεος*, e. g. *ἀδελφι-δέος*, where δ is not radical, but an original *τyo* might also be assumed. (c) *dy* loses the original *y*, so that parasitic *d* only remains, e. g. in the Boeotian *δνγόν* for $\xi\gamma\acute{o}\nu$, *ιεράδδω* for *ιεραδγω* (*ιεράξω*), or *ιεραγω* (*ιεράω*). *δνγόν* is strong evidence for the theory of the rise of ζ in $\xi\gamma\acute{o}\nu$: but we can hardly feel

enough certainty either as to original form or meaning to pronounce a verdict upon other cases to which Curtius applies his theory—e. g. the particles $\delta\eta$, $\delta\eta\nu$ and suffixes - $\delta\epsilon$ and - $\zeta\epsilon$ as modifications of ($\delta)y\epsilon$ from the pronominal root $y\alpha$; or adverbs in - $\delta\nu$, - $\delta\eta\nu$, - $\delta\alpha$, patronymics in - $\delta\alpha$, and nominal stems in - $\alpha\delta-$ or - $\iota\delta-$, as arising from the adjectival suffix $y\alpha(\iota\omega)$ with a parasitic δ . The rarity however of *d* and great frequency of *y* as an element in stem-formations of Indo-European languages make it difficult to find any other way of harmonising these Greek forms with those of kindred languages: and it is fairly urged by Curtius and his supporters that a process which every one allows in some cases (e. g. $\xi\gamma\omega\nu$ and $\delta\gamma\omega\nu$, cp. with *iug-um*) is at least possible in others¹.

(4) The aspiration of unaspirated letters (in words where ^{Aspiration of} ^{unaspirated} none of the cognate languages exhibit an aspirate or its substitutes) is found to some extent both in Sanskrit and Greek; a parasitic *h* being produced, most commonly by influence of an adjoining nasal or liquid or preceding σ , as in $\delta\delta\delta\sigma$, $\kappa\lambda\epsilon\bar{\imath}\theta\rho\sigma$ (the suffix - $\tau\rho\sigma$), $\tau\epsilon\phi\text{-}\rho\alpha$ (Latin *tep-eo*), $\lambda\acute{\chi}\text{-}\nu\sigma$ ($\lambda\upsilon\kappa\text{-}$, *luc-eo*), $\epsilon\xi\alpha\bar{\iota}\phi\eta\sigma$ ($\epsilon\xi\alpha\pi\bar{\iota}\eta\sigma$), $\sigma\chi\bar{\iota}\zeta\omega$ (*scid* in *sci(n)do*), and perhaps $\sigma\theta\acute{\epsilon}\text{-}\nu\omega$ (if a strengthened form of *sta* which in Sanskrit becomes *stha*). In other cases no cause for the change is apparent beyond mere laziness operating irregularly, and affecting only some words permanently, e. g. $\beta\lambda\acute{\epsilon}\phi\alpha\sigma\sigma$, $\sigma\phi\sigma\sigma$, $\sigma\alpha\phi\eta\sigma$ (*sap-* of *sap-io*). In Latin the aspirates had early disappeared; but irregular aspiration at the beginning of a word seems to have been known both in Latin and Greek. Both peoples left out the aspirate where it ought to begin a word, and in both there was a tendency to replace it where it had no right to be; just as in vulgar English the *h* is often regularly dropped, and almost as regularly inserted before a vowel where it is not required. There seems to have been a tendency in Greek to aspirate an initial *v*, e. g. $\tilde{v}\delta\omega\sigma$, $\dot{v}\pi\acute{o}$, $\tilde{v}\sigma\tau\epsilon\sigma\sigma$, a tendency which is intelligible if we suppose the sound of *v* to have been something like German *ü*, which is difficult to pronounce without a breath

¹ Examples of a similar phenomenon in other languages are—Italian *diacre*, *diacinto*, *maggiore* (from Latin *iacere*, *hyacinthus*, *major*); Modern Greek $\delta\iota\alpha\kappa\iota$ ($\sigma\iota\alpha\kappa\iota\sigma$); Gothic *daddja* (O. H. G. *tajā*; Skt. *dhayāmi*).

slipping out before it. The Aeolic *ἀμμες* (*ημεῖς*) is probably right : *ημεῖς* resting on a false analogy from *ἴμεῖς*, where ' represents *y*. In other cases, e.g. *ἴππος*, cp. with *ἴκκος*, *equus*, etc.; *ζως* in Attic Greek (other dialects having smooth breathing); *ἀμαρτεῖν* (Attic), cp. with *ἥμιθροτον* (Epic); there seems nothing to account for the aspirate, which is perhaps due to mere mistake.

Aspiration
in Latin.

In Latin the insertion of *h* was of later date, never being found, according to Corssen, upon Republican inscriptions. After *p*, *c*, *t*, *r* it occurs chiefly in Greek words, but not before 100 B.C. and not generally before 50 B.C. About this period there appears to have begun a tendency to insert in pronunciation, and also in writing, a superfluous *h*: thus Cicero (Orat. 48, § 160) says that at one time he spoke as the old Romans did, *pulceros*, *Cetegos*, *trumpos*, but afterwards conformed to the ordinary practice and said *Pyrrhus*, *Phryges* (not as Eunius wrote, *Burrus*, *Bruges*); but still *sepulera*, *coronas*, *lacrimas*, etc. Catullus wrote a well-known epigram (lxxxiv. ed. Ellis) ridiculing the pronunciation of *chommoda*, *hinsidias*, etc.: and according to Quintilian (I. O. i. 5, 20) some inscriptions in his time had *choronae*, *chenturiones*, *praechones*. In late inscriptions (fourth century A.D. and onwards) the utmost irregularity is seen, *h* being omitted and inserted almost at random, e.g. *hac* (*ac*), *hornat*, *hextricata*, *haditus*, *hauctoritas*, *omini*, *abitat*, *inospita*; from which we infer great confusion and uncertainty in the use of the aspirate in the ordinary pronunciation of those who cut the inscriptions. Finally in modern Italian the *h* is not sounded at all.

In MSS. of the best classical authors and in the writings of grammarians there is a good deal of uncertainty in the spelling of particular words, the errors being more often in omission of *h* (from reaction, probably, against the tendency noticed by Cicero and Catullus). The preferable spelling, for example, of the following words is *harundo*, *harena*, *heres*, *holus*, *hordeum*, *haruspex*, *hedera*, *erus*, *umerus*, *umor*: but all these are constantly spelt otherwise in the best MSS.¹

Auxiliary
vowels.

(5) Auxiliary Vowels (prefixed or inserted).

¹ See Munro's 'Lucretius,' Introd. to Notes, I.

An auxiliary (inorganic) vowel, purely phonetic in its origin, is found most frequently before λ , ρ , μ , ν , and rarely before an explosive sound; never before τ , π , ϕ . A protracted or fricative sound has something of a vowel character (see above, p. 32) about it, and it is therefore easy for a vowel to slip out before such a sound; whereas before a momentary (explosive) sound the vowel must be deliberately and consciously sounded. This additional ('prosthetic') vowel is sometimes found at the beginning, sometimes in the middle, of a word; oftenest as α or ϵ , less often as \circ or ι , seldom as v . Examples in Greek; (a) *initial*; $\dot{\alpha}\text{-}\sigma\tau\acute{\eta}\rho$ (cp. Latin *stella*=*ster-ula*, Vedic Sanskrit *star*, German *Stern*, our *star*): $\dot{\alpha}\text{-}\sigma\pi\alpha\acute{r}\omega$ (an easier form of *σπαίρω*; $\dot{\epsilon}\text{-}\lambda\chi\acute{s}$ (Sanskrit *laghu-s*, Latin *levis*=*legu-is*); $\dot{\epsilon}\text{-}\mu\acute{e}$, $\dot{\epsilon}\text{-}\mu\acute{o}\acute{i}$, cp. with $\mu\acute{e}$, $\mu\acute{o}\acute{i}$ (stem *ma*); $\dot{\epsilon}\theta\acute{\epsilon}\lambda\omega$, $\theta\acute{\epsilon}\lambda\omega$; the Homeric $\dot{\epsilon}\acute{F}\acute{e}\rho\gamma\acute{\epsilon}\omega$, $\dot{\epsilon}\acute{F}\acute{e}\iota\kappa\acute{o}\acute{s}$, $\dot{\epsilon}\acute{F}\acute{e}\rho\sigma\acute{\eta}$, etc.¹; $\ddot{\delta}\text{-}\nu\acute{o}\acute{m}\acute{a}$ (Sanskrit *nāman*, Latin *nomen*); $\ddot{\delta}\mu\acute{f}\acute{a}\lambda\acute{o}\acute{s}$ = $\ddot{\delta}\text{-}\nu\acute{f}\acute{a}\lambda\acute{o}\acute{s}$ (*navel*); $\ddot{\delta}\text{-}\delta\acute{o}\acute{s}$ (stem $\ddot{\delta}\delta\acute{o}\acute{n}\tau$ -, Latin *dens*, Sanskrit *danta*). In these and similar cases (a limited number in all) the vowel seems to be merely phonetic, the result of careless articulation.

(b) *Medial*. Here the case is not always so clear, because the fuller form may sometimes be the older and have lost its vowel. Thus $\delta\rho\acute{e}\gamma\omega$ quoted by Schleicher (Comp. § 46), as referable to a root *arg* with ϵ inserted, is as likely to be from a root *rag* (Latin *reg-o*) with an initial prefix \circ . $\dot{\alpha}\lambda(\epsilon)\gamma\acute{e}\nu\acute{o}\acute{s}$, $\dot{\eta}\lambda\text{-}\nu\text{-}\theta\acute{o}\acute{v}$ (root $\epsilon\lambda\theta$ -), $\dot{\alpha}\lambda\text{-}\acute{\epsilon}\text{-}\xi\omega$ ($\dot{\alpha}\lambda\kappa\acute{h}$, Latin *arc-eo*), are more probable cases. In the conjugation of many verbs we find a secondary stem formed by the phonetic addition of ϵ alternating with the original stem. Sometimes the enlarged stem forms the present, the shorter stem the other tenses, as $\gamma\eta\theta$ -, $\gamma\eta\theta\acute{e}\text{-}\omega$, $\gamma\acute{e}\gamma\eta\theta\text{-}\alpha$; $\delta\acute{o}\kappa$ -, $\delta\acute{o}\kappa\acute{e}\text{-}\omega$, $\delta\acute{e}\text{-}\delta\acute{o}\gamma\text{-}\mu\acute{a}\acute{s}$: sometimes *vice versa*, as $\mu\acute{a}\chi$ -, $\mu\acute{a}\chi\text{-}\circ\mu\acute{a}\acute{s}$, $\dot{\epsilon}\text{-}\mu\acute{a}\chi\epsilon\text{-}\sigma\acute{a}\mu\acute{v}\acute{u}$, $\circ\acute{a}\chi\text{-}\circ\acute{a}\chi\text{-}\mu\acute{a}\acute{s}$, $\circ\acute{a}\chi\acute{h}\text{-}\sigma\acute{a}\mu\acute{v}\acute{u}$. (Curtius' Greek Grammar, §§ 325, 6.)

In Latin there is but little evidence of a vowel as a phonetic prefix; *enim* (cp. *nam*) and *e-quidem* (*quidem*) being almost the only instances.

¹ It is, however, possible that the \circ - of $\circ\acute{v}\acute{o}\acute{m}\acute{a}$ may be part of the primitive root: cp. Irish *aimu* and Old Prussian *emnes* suggesting an earlier form *an-man*.

Auxiliary
consonants.

(6) Insertion of Auxiliary Consonants.

In Greek between $\nu\rho$, $\mu\rho$, $\mu\lambda$; $\dot{\alpha}\nu\delta\text{-}\rho\sigma=\dot{\alpha}\nu\rho\sigma$ (stem $\dot{\alpha}\nu\epsilon\rho\text{-}$); $\mu\epsilon\sigma\eta\mu\beta\rho\alpha=\mu\epsilon\sigma\eta\mu\rho\alpha$ ($\dot{\eta}\mu\epsilon\rho\alpha$): $\ddot{\alpha}\mu\beta\rho\sigma\tau\alpha=\dot{\alpha}\mu\rho\sigma\tau\alpha$ (stem $\mu\rho\sigma\text{-}$, Latin *mor-*); $\mu\epsilon\mu\beta\lambda\omega\kappa=\mu\epsilon\mu\lambda\omega\kappa$ (stem $\mu\lambda\omega\text{-}$). $\beta\rho\sigma\tau\alpha$ is for $\mu\beta\rho\sigma\tau\alpha=\mu\rho\sigma\tau\alpha$; $\beta\lambda\iota\tau\omega$ for $\mu\beta\lambda\iota\tau\omega=\mu\epsilon\lambda\iota\tau\gamma\omega$; in both cases the β is parasitic.

In Latin *p* between *ms*—*hiemps*, *sumpsi*.

In modern languages French *gendre* (*gener*), *nombre* (*numerus*); English *humble* (*humilis*), *Ambleside* (= *Hamal-seat*; *Hamal* being a Norse name), are examples of similar phonetic insertion of *b*, *d*.

In the foregoing pages an attempt has been made to refer most of the changes of sound that have been noticed to one uniform principle, viz. the tendency to weak articulation and the desire to secure the easiest pronunciation. But in tracing the operation of such tendencies it must be remembered that

National
peculiarities
of utterance.

the difficulty of uttering a particular sound varies with different tribes and nations. It varies, as we know, with different individuals sometimes from organic defect, sometimes from want of practice; and such varieties of pronunciation, unless deliberately corrected or successfully fought against, become permanent peculiarities¹. Hence (to take examples from English) we have people who cannot pronounce *r*, who ‘lisp’ the sound of *s* as *th*, who pronounce *v* as *w* and *vice versa*. And so with nations; certain sounds or classes of sounds are preferred or avoided², are more or less frequently or seldom pronounced: and in this way, on the separation of different tribes from a common stock, the same words take different shapes among different tribes, the ambiguous or intermediate sounds being differently fixed or differently developed. In Professor Max Müller’s Lectures, Series II. Lecture iv. pp. 171–183, etc., will be found a number of illustrations (*a*) of the absence or presence of certain sounds in the speech of particular nations, (*b*) of the different shapes which the same root exhibits in different languages; from which a few selections are here made.

¹ See Max Müller’s ‘Lectures,’ II. Lect. iv.

² Whitney, ‘Life and Growth of Language,’ p. 72.

(a) The dentals seem to be the easiest sounds; they are the most universally employed and are the first uttered by children. But it is said that the dental media *d* does not occur in Chinese nor in three American dialects. Again, some of the Polynesian (Turanian) languages have no gutturals, and some North American dialects no labials: while in the language of the Sandwich Islands the gutturals and dentals are indistinguishable. The *tenues* and *mediae* are not distinguished in the Polynesian dialects, and are often confused by the Welsh, who say *Tavit* for *David*, *pet* for *bed*. Sanskrit shows many weakened forms of consonants, due perhaps in some measure to the effects of the enervating climate of India: e.g. the palatal sibilant ष (ṣ) which arises from careless pronunciation of **k** without bringing the root of the tongue firmly against the back of the palate; or the ‘palatal’ sounds च, ज (c, j) which are weakenings of **k** and **g** respectively. Sanskrit has the aspirated mediae *gh*, *dh*, *bh*, which were difficult sounds to most other Indo-European nations (see above, p. 34). Greek retains the aspirated tenues *χ*, *θ*, *φ*: Latin has neither. The comparative peculiarities of Latin and Greek with respect to final sounds have already been noticed (p. 72).

(b) The variation of the same root in different languages may be illustrated by ‘Grimm’s Law’ of regular interchange between (1) Sanskrit, Greek, and Latin taken as one group, (2) Gothic and Low German dialects (including English), (3) High German and its stock (including modern German); the one having an *aspirated mute* (or fricative representing the aspirate) where the second has a *media* and the third a *tenuis*. The following formula will express this law:—

	I.	II.	III.
(1) Sanskrit, Greek, Latin . . .	Aspirate	Media	Tenuis
(2) Gothic and Low German. . .	Media	Tenuis	Aspirate
(3) High German, etc.. . . .	Tenuis	Aspirate	Media

The following table gives a simple illustration of its working; *initial* letters being taken as freest from the influence of

Grimm's
Law.

neighbouring consonants, and *dentals* as offering the most regular illustration. Fuller illustrations are given in the table below, p. 91 :—

I.						
1. Greek θ	θυγάτηρ	θήρ	θύρα	μέθυ		
Latin f		fera	fores			
2. English d	daughter	deer	door	mead		
3. German t or th = t	tochter	thier	thor	meth		
II.						
1. Greek δ	δόσις	δαμᾶν	δύο	ξε-ειν	ὑδωρ	
Latin d	dens	domare	duo	edere	unda	
2. English t	tooth	tame	two	eat	water	
3. German z or s ¹	zahn	zähmen	zwei	essen	wasser	
III.						
1. Greek τ	τύ (συ)	τρεῖς		τό		
Latin t	tu	tres	tenuis	is-tud	frater	
2. English th	thou	three	thin	that	brother	
3. German d	du	drei	dinn	das	bruder.	

The principal exceptions to this law of change are thus classed in Ferrar's Comparative Grammar, pp. 34–38.

1. Onomatopoeic and imitative words, and natural sounds : e.g. ὑλακτῶ, English *howl*, German *heulen*; κλαγγή (Latin *clango*), English *clank*, *clatter*, etc., Old Norse *klaka*; μάμη, ἄππα, (*mamma*, *papille*), English *mamma*, *papa*, German *Amme*, (from the natural sounds *ma*, *pa*); Sanskrit *tāta* (dear), Greek τέττα, τίτθη, etc., English *tit*, *teat*, Old High German *tutto* (breast).

2. Borrowed words, in which the sound of the original language was naturally retained.

3. Regular exceptions in the consonantal groups *sk*, *st*, *sp*. Thus in Latin *stella*, English *star*, German *Stern*, the *st* sound is identical; the hard *s*, in fact, not being easily pronounced with any sound but a hard one.

4. Where sounds have been irregularly changed within the same language. Thus the change from Sanskrit *dvāra* to

¹ So a Greek aspirate frequently corresponds to Latin *s* (see above, p. 66).

English *door*, German *Thor* (Old High German *tor*), would be Grimm's Law. exceptional, did not *θύpa*, *fores* show that *d* of *dvāra* represents an original aspirate *dh*. So in Sanskrit *budhna* (root), (English *bottom*, Old High German *bodam*), *b* represents *bh* of Indo-European *bhudhna*.

The process of this 'Lautverschiebung,' or Dislocation of Consonants, between the languages in question, is thus traced by Professor Max Müller (Lectures, Series II. Lecture v).

1. The physiological analysis of sound shows, at each of the three points of consonantal contact, four possible varieties of pronunciation—viz. a *hard* sound (*tenuis*), or a *soft* sound (*media*), or aspiration by an audible emission of breath immediately after utterance of the hard or soft sound. Thus we have:—

Guttural	k, kh, g, gh.
Dental	t, th, d, dh.
Labial	p, ph, b, bh.

Original process of the changes formulated in Grimm's Law.

2. The development of, and maintenance of, the distinction between these varieties of articulation is characteristic of the increasing development of languages, in which new ideas are constantly requiring expression, and the phonetic organs are consequently driven to new devices which gradually assume a settled and traditional form. There was probably a time when the Indo-European peoples (as yet un-separated) had no aspirates at all: and while some dialects never arrived at more than one set of aspirates, others ignored them altogether or lost them again in course of time. But it seems likely that before the separation of the Indo-European peoples, some of them at any rate had elaborated a threefold modification of consonantal contact—*tenuis*, *media*, and *aspirate*—thus securing in many cases (e. g. the root *tar*, 'to cross,' *dar*, 'to tear,' *dhar*, 'to hold') distinct utterances for distinct expressions. The distinction thus gained was kept up in Sanskrit by *tenuis*, *media*, and *aspirated media* (*t*, *d*, *dh*); and in Greek by *tenuis*, *media*, and *aspirated tenuis* (τ , δ , θ). But in Latin, where the aspirates had not been realised at all, the distinct utterance of the third (or *aspirated*) variety of consonantal sound would naturally be lost. Thus (to take a case where only two roots, one containing an aspirated sound, had to be distinguished) in

Grimm's
Law.

Sanskrit we have *da-dā-mi*, ‘I give,’ and *da-dhā-mi*, ‘I place;’ Greek keeps up the distinction in $\delta\acute{\imath}$ - $\delta\omega$ - $\mu\iota$ and $\tau\acute{\imath}$ - $\theta\eta$ - $\mu\iota$; Latin is obliged to give it up, and retains only one of the two roots in *da-re*, ‘to give,’ replacing the other by different words, such as *facere* or *ponere*. But *credere*, *condere*, *abdere* point back to the root *dhā*, ‘to place,’ as having existed originally in Latin as in other cognate languages. The Teutonic tribes again, who had no aspirates, tried nevertheless to maintain the distinction between the threefold varieties of eonsonantal contact, which had come to them as ‘the phonetic inheritance of their Aryan (Indo-European) forefathers:’ and it is in their endeavours to supply the place of the aspirates in words common to them with the other Indo-European nations that Professor Max Müller sees the first step in the progress of ‘Lautverschiebung.’ Where Sanskrit had aspirated *mediae*, and Greek aspirated *tenues*, Gothic (like Celtic and Slavonic) preferred the corresponding *mediae*, High German the corresponding *tenues*. None of these, however, borrowed from, or came after, another; they are ‘national varieties of the same type or idea.’

3. Thus far ‘Lautverschiebung’ is the representation of aspirate sounds by nations which did not possess them: but the stock of common Indo-European words which began with *mediae* (*g*, *b*, *d*) and *tenues* (*k*, *t*, *p*) led to further changes in Gothic and High German utterance. These nations having, as we have seen, already used their *mediae* and *tenues* respectively to supply the place of the aspirates, found themselves in a difficulty. The Goths, for instance, felt the distinction between the two series of consonantal sounds which Sanskrit kept distinct as *gh*, *dh*, *bh* and *g*, *d*, *b*; but they had already employed the second to denote the first; and so, in order to keep them distinct, fixed this latter series *g*, *d*, *b* in their own national utterance as *k*, *t*, *p*. Then arose the same difficulty of maintaining distinct the third series of sounds which Sanskrit and Greek had fixed as *k*, *t*, *p*; and the only remaining expedient was to adopt the corresponding ‘hard breaths’ *h*, *th*, and *f*.

Similarly the High German tribes, having taken the sounds which Greek took as *aspirate tenues*, χ , θ , ϕ , to be *k*, *t*, *p*, were

driven to adopt the breaths *ch*, *z*, *f* as the second variety; while Grimm's Law. for the third variety nothing was left but the *mediae*, which however in the guttural and labial series have constantly been replaced by Gothic *h* and *f*.

If we denote the aspirates by (i), the *mediae* by (ii), the *tenues* by (iii), and the breaths by (iv), the following table will exhibit the process just described:—

	Original Aspirate.	Media.	Tenuis.
A.] Sanskrit	(i) gh, dh, bh.	(ii) g, d, b.	(iii) k, t, p.
B.] Gothic	(ii) g, d, b.	(iii) k, t, p.	(iv) h, th, f.
A.] Greek	(i) χ, θ, φ.	(ii) γ, δ, β.	(iii) κ, τ, π.
C.] High German . .	(iii) k, t, p.	(iv) ch, z, f.	(ii) (g), d, (b). h f

The chief objection to this theory of the changes of Grimm's Law is, as Mr. Peile points out (in note 1 to his 5th chapter), the want of sufficient motive for the *second* variation. The first obviously arose from the desire to get rid of the objectionable aspirates, which were expressed by the *mediae* in Gothic, the other changes following from a desire for clearness. But it is not so easy to see why, when the aspirates were gone, and only the breaths *h*, *th*, *f* left, the High German speech should have made any further change. Nor is it easy upon any theory to account for the first variation in the Gothic and Low German dialects, from the *mediae* or sonants *g*, *d*, *b* to the *tenues* or surds *k*, *t*, *p*; for all analogy of languages shows that phonetic change is from harder to easier sounds (i. e. from *tenues* to *mediae*) and not *vice versa*, so that *kin*, for example, would be at once assumed to be an earlier not a later form than *genus*, *γένος*. The facts are indisputable; but they seem to contradict one of the most invariable and best authenticated laws of speech. Nor has any theory yet been devised which is satisfactory at all points. We can only say generally of the changes for which we cannot account that they are possibly examples on a large scale of that tendency to maintain the distinctive features of a word against the influence of phonetic decay, an example of which is seen in the 'compensatory lengthening' of a syllable to make up for some loss of

sound; and which may often be discerned in a struggle of the intellectual or instinctive desire to preserve those parts of a word that are characteristic of its meaning against the physical tendency to reduce the effort of articulation.

The regular action of Grimm's Law is sometimes interfered with by other agencies, e. g. by the accent. To this are due such forms as *Mutter*, *Vater*, beside *Bruder*; for in Sanskrit we have mātár, pitár (cp. Greek πατήρ) accented on the last syllable, but bhrátar (ϕράτωρ) accented on the first. Such different forms, again, as *sieben* and *fünf* (seven and five) are accounted for by finding saptán, éπτά, but pánchan, πέντε. Again, the various phonetic tendencies in different languages—e. g. assimilation, the loss of *s* between vowels in Greek, or its change into *r* in Latin—may interfere with the operation of Grimm's Law; or, to speak more correctly, it may account for the non-occurrence under certain conditions of those observed phonetic facts of which that 'Law' is the statement and generalisation.

General Table of Grimm's Law.

Original Sounds.	A.			B. Gothic and Low German.	C. High German.
	Sanskrit.	Greek.	Latin.		
I. Aspirates	KH	gh (h)	χ	h, f(g, v)	g
	TH	dh (h)	θ	f (d, b)	d
	PH	bh (h)	φ	f (b)	b
II. Mediae	G	g (j)	γ	g	k
	D	d	δ	t	t
	B	b	β	b	p
III. Tenues	K	k	κ	c, qu	ch
	T	t	τ	t	zz
	P	p	π	p	f, ph
				(p) ¹ ?	

¹ There are few really Saxon, and no Gothic (unless foreign), words beginning with *p*. In Sanskrit, too, the consonant *b*, which ought to correspond to Gothic *p*, is seldom, if ever, an initial sound, its place being occupied by *v*. Hence this particular phase of Grimm's Law is inserted without illustration by both Bopp and Max Müller, to complete the scheme.

Examples to illustrate Grimm's Law (chiefly from Bopp).

Original Sounds.	A.			B.		C.	
	Sanskrit.	Greek.	Latin.	Gothic and Low German.	English.	Old High German.	German.
I. Aspirates:—							
KH	hansas	X ^h ψ ^v	(h)anser	gans	goose	k ^h ans	
hyas	Xθες	Xθες	heri				
TH	Xολη̄	Xολη̄	fel	dus	gall	tior	
PH	θηρ	μέθυ	fera		deer	thier	
bhar	φέρω	fēro	brother		mead		
bhratā(r)	φπατρία	frater			bear		
II. Mediae:—							
G	janas	γέρος	genus	kind	elumni		
D	jānu	γύνων	genu	kniu	chniu		
	dvau ¹	δύο	duo	tvai	two		
B	damas	δόμος	domus	timur	timber		
III. Tenues:—							
K	bṛidaya ²	καρπίδια	cor(d)	hairtō	heart	herza	
	kas	κασ	quis	kyras	who		
T	tvam	κέπασ	cornu	heorot	Hart	hiruz	
	trayras ³	τρύπεις	tu	thrais	thou		
P	tanus	τρύπα	tres	three	drī	du	
	padas	πούς	tenuis	thin	drei	dünn	
	ptūpa	πλάκος	pes	fōtus	foot (f=b)	fuss (f=asp.)	
			fulls	full (f=b)	vol	voll	

¹ Nom. dual.² An irregular form; we should expect krid-.³ Nom. plural.

CHAPTER V.

FORMATION OF WORDS.

Elements of language. LANGUAGE is made up of articulate sounds combined into words. These sounds, however, convey no meaning in themselves (except in a few cases of interjectional sounds): and it is only when *words* are formed that we have language properly so called, the medium of communication between men, the means of expression of human thought. Thus, although to understand the changes and varieties in the outer form of language, it is necessary to investigate the nature of sounds and their production by the physical organs of voice—the ‘Phonology’ or ‘Sound-Lore’ of linguistic study; the ultimate facts in language regarded as an expression of thought or meaning are *words*—or rather, the elements, or several combinations of sounds expressive of meaning, into which a careful analysis shows that all words can be divided—i.e. ‘Morphology’ or ‘Word-Lore¹.’ These elements are broadly divided into ‘radical’ and ‘formative’—i.e. on the one hand, that portion of the word which gives its general meaning in the simplest and most rudimentary form; on the other, all

Analysis of words.
Radical and Formative elements

¹ Some references to books which treat more fully of these questions than is possible here, may be of service to the student. Thus, on Phonology: Schleicher, ‘Compendium,’ §§ 1-204; Ferrar, ‘Comparative Grammar,’ ch. i-vi. §§ 1-86; Peile, ‘Introduction to Greek and Latin Etymology;’ Roby, ‘Latin Grammar,’ Book I. §§ 1-302; Curtius, (The Student’s) ‘Greek Grammar,’ §§ 1-99; and ‘Elucidations,’ pp. 17-47. On Morphology: Schleicher, §§ 205-241; Ferrar, ch. vii. viii. §§ 87-127; Roby, Book III. §§ 740-999. In Curtius’ ‘Greek Grammar’ and ‘Elucidations’ the formation of Noun and Verb stems is treated as a part of Noun and Verb Inflection.

those additions which vary or define or restrict this general idea, or adapt the word for its place among, and its relation to, other words combined into a sentence for the expression of thought. The *radical* element of a word is termed the *root*: while under the term *formative* elements are included (1) those modifications of the root either by 'dynamic change' or by the addition of suffixes (themselves originally independent roots), by which it becomes a Noun- or Verb-'Stem'; (2) the inflections expressive of Case, Number, or Gender, Tense, Mood, or Person, by which these Noun- or Verb-Stems are enabled to express so many various shades of meaning when placed in relation to each other as parts of a sentence.

[It should be noted here, that this division into Noun and Verb ('Nominal' and 'Verbal' Stems or Bases) is exhaustive of Indo-European words. In all Indo-European languages (and therefore in Greek and Latin) there are originally only two kinds of words distinguished as *noun* (*ὄνομα*) and *verb* (*ρῆμα*). The faculty of language in man leads him first to give *names* (*nomina*, *ὄνόματα*) as signs expressive of conceptions, and then leads him to form *verbs* (*verba*, *ῥήματα*) to express that which 'is said' about or predicated of the conception expressed by names. All other 'Parts of Speech' designated by grammatical analysis have been developed out of one or other of the two main classes of Nouns and Verbs. This is sufficiently obvious with *Adverbs*, which are often merely case-forms of existing nouns, substantive or adjective (e.g. *δικῆν*, *instar*, *torva tuens*, *πλεῖστον*, *πλεῖστα*), and can generally be traced back to archaic, or mutilated, or otherwise altered case-forms. The same applies to Prepositions, which grammatical analysis shows to have been originally adverbs¹, separable alike from the cases with which they are used, and from the words with which they are compounded in classical Greek or Latin; many prepositions being still used in those languages as adverbs (e.g. *ante*, *circum*, *contra*, *extra*, etc.). So too with Conjunctions and all 'Particles,' though it is not always possible to

Division of
words into
Noun and
Verb ex-
haustive.

¹ See Curtius' (The Student's) 'Greek Grammar,' §§ 444-446; 'Elucidations,' ch. xvii. pp. 200-202.

trace the original form in words which, being in very constant use and not as the most essential words in a sentence, are the more liable to corruption and decay in utterance. In words however such as *στι*, *quod*, *quia*, *quam* it is obvious; *que* is some case form of *qui*; *ως* is evidently adverbial, and *ut* is merely its phonetic equivalent; *non=ne unum*; and *ne*, *nei* is evidently a case form; and similarly, numbers of examples might be produced, were we concerned now with more elaborate proof of the statement here given^{1]}.]

Roots.

By a ‘root’ we mean the simplest combination of sounds which expresses the general meaning of any word or set of kindred words, e.g. *da* is the root of Sanskrit *da-dā-mi* ($\delta\bar{\imath}\delta\omega\mu\bar{\iota}$), *da-mus*, *da-tur*; etc., Sanskrit *dā-tar* ($\delta\sigma\tau\eta\rho$), etc.: *jug* of *ju(n)go jug-um* (for the nasal sound *n* in present stem cf. $\lambda\alpha\mu\beta\bar{\alpha}v\omega$, $\epsilon\text{-}\lambda\alpha\beta\text{-}ov$).

The formative elements, suffixes and inflexions, which form words from simple roots, are originally independent roots. Thus in $\delta\bar{\imath}\delta\omega\mu\bar{\iota}$, *da-dā-mi*, *mi* is a weakened form of *ma* the pronominal element of first person; in *vox* (*voc-s*), Sanskrit *vāk* (= *vāk-s*), *s=sā* demonstrative pronoun.

Thus every I. E. word is a whole gradually sprung from several, or at least two, ‘roots.’ The first of these is the ‘root’ in the ordinary acceptation of the term, i.e. *that which conveys the meaning in general*; the others have degenerated into suffixes for expressing modifications of meaning.

In the ‘Isolating’ or ‘Radical’ stage of language, the roots remain separate and distinct: *i-ma*.

In *Agglutinative* languages the principal root remains the same, but receives an addition in the form of a changeable prefix, suffix, or infix: *i-ma* or *i-mi*.

The *Inflectional*, or highest type of language, alters the principal root (by reduplication or by raising the vowel) for purposes of expression: *aimi* (Sanskrit *emi*), *ε̄iμi*².

N.B.—A simple root without modification or addition of suffix cannot form a *word*.

¹ See Appendix II.

² On the three ‘stages’ of linguistic growth, see ch. ii. pp. 4-8.

Indo-European roots are generally *monosyllabic*¹; and are distinguished as :—

1. *Primary*; e.g. *i* (go), *ad* (eat), *da* (give), *yu* (join).
2. *Secondary*; e.g. *tud* (strike), *yug* (jug, yoke, i.e. join), *yudh* (fight, i.e. join battle), *plu* (flow), *arl* (hurt), *spac* (see).

These secondary roots are probably in all cases (as evidently *yug*, *yudh*, &c. with *yu*) modifications of primary roots, by the addition of a letter or letters, expressing usually some extension or limitation of the idea². The additional element may have been in some cases ‘dynamic’ (see above, p. 51), in others ‘phonetic’—i.e. a mere change of sound, afterwards turned to account for the expression of meaning, as e.g. the phonetic variation of the *a*-sound into *a*, *e*, *o* (p. 36).

The primary roots are the most important in the history of language, but their predicative power being generally too indefinite to answer the purpose of advancing thought, they were to a large extent encroached upon and supplanted by secondary roots.

Philologists are not agreed upon the exact definition of a root.¹ Professor Max Müller (Lectures I. p. 215) states a root to be ‘whatever cannot be reduced to a simpler or more original form.’ This, he says afterwards (Lectures, II. chap. iii.) is objected to as making a root a mere abstraction, and so unfit to explain the realities of language; to which he replies that in one sense a root *is* an abstraction; for it is a cause, which we only recognise and arrive at from its effects, viz. words. These effects we hear in language, but not the root itself. At the same time Professor Max Müller seems to maintain the real force of roots—e.g. that the root *da*, in some way or other which we cannot yet explain, has some necessary

¹ Some philologists think that the majority of roots in most languages were of more than one syllable in the earliest stage; and in Indo-European secondary roots such as *yudh*, *mard*, *smar*, &c. would see dissyllabic forms worn down by phonetic decay; *yu-dh*, for example, representing *yu-dha*.

² E.g. from root *tar* (whence *τείρω*, *tero*, etc.) we get the modified forms (*tra*), *tri* (tritium), *tru* (*τρύω*, etc.), *tork* (*torquo*, ἀ-τρέκ-ήσ = ‘not turned’), *tram* (*τρέμω*), *trib* (*τρίβω*, *tribula*), *trup* (*τρύπανον*). *Tra* is a variety of *tar*: *tri* and *tru* are secondary, by modification of *a* to *i*, *u*.

connection with the idea of ‘*giving*’—and regards them as ‘phonetic types’ which we cannot as yet explain, but which alone give us definite forms on which to rest our enquiries into language, standing between us and the ‘chaos of onomatopeia and interjections.’ It seems however that, as we cannot know with certainty the ultimate form of these roots, our speculations as to the connection between them and the ideas they express can be little more than guess-work¹.

Those therefore who disbelieve in the existence of, or at least in any chance of finding out, any necessary connection between roots and the ideas expressed by them, prefer to consider roots as ‘mere abstractions,’ as ‘headings’ of common elements under which to class words belonging to the same family, as ‘labels’ or ‘tickets’ of classification. After all, they say, we can only find out in many cases the simplest forms in individual languages; and if in different languages we find different simplest forms or roots to express the same idea, it is hard to assume in the case of any one of them any inherent or natural power by which it is connected especially with that idea. An example of this view may be seen in Peile’s ‘Introduction to Greek and Latin Etymology,’ where the definition given by Curtius of a root as ‘that combination of sounds which remains when a word is stripped of everything formative’ is accepted².

I am inclined to think this latter view is the safest, and the most consistent not only with the present state of the science of language, but with its future prospects. As was said above (chap. i. pp. 2, 3) we arrive by analysis of language at certain primitive and elementary combinations of sounds, which we call ‘roots,’ and which, forming as they do the common element in groups of connected or kindred words,

¹ Mr. Peile puts this forcibly and clearly (‘Introduction,’ p. 42): ‘That there was some connection (between idea and form) originally I believe; but I do not believe that it is ever discoverable with certainty: and that it was ever necessary, I deny.’ And in support of this position he aptly quotes M. Renan’s dictum (‘De l’Origine du Langage,’ p. 48), ‘La liaison du sens et du mot n’est jamais nécessaire, jamais arbitraire, toujours elle est motivée.’

² Ch. iii. pp. 41–44 (3rd ed.).

we speak of as conveying such and such a meaning. But we must now, and I think always, accept these simplest forms as *ultimate facts* which Philology will never explain to us. Comparison of languages and analysis of words may now and then point to some simpler and more elementary form than has yet been reached: but the prospect of finding out the reason of such forms, and *why* they came to have the meanings which they have in language, is so remote, if not altogether visionary, that it may for all practical purposes be disregarded. And therefore I prefer such a description or definition of roots as assumes nothing with regard to their inherent power of expressing particular meanings, and whether under the title of ‘abstractions,’ ‘labels,’ or ‘simplest forms’ takes them as facts, but *unexplainable facts*. They are, as Professor Sayce puts it (Introd. ii. p. 7), ‘the phonetic and significant types discovered by the analysis of the comparative philologist as common to a group of allied words. They form, as it were, the ultimate elements of a language, the earliest starting-point to which we can reach.’ And as each family of languages has its own stock of roots, these roots exhibit the characteristics of the family to which they belong; sometimes they are monosyllabic, sometimes polysyllabic; sometimes they must contain a vowel (in Turanian), sometimes no vowel (Semitic and perhaps Chinese).

On this view, then, a root may be defined as ‘the simplest ascertained combination of sounds, which expresses the general meaning of any word or set of kindred words in one or more Indo-European languages¹! Definition of Root.

Roots are for the most part ‘*predicative*,’ i.e. expressive of ideas of action, state, etc.; but there is a limited number of ‘*pronominal*’ or ‘*demonstrative*’ roots (expressive e.g. of such ideas as ‘here,’ ‘there,’ ‘this,’ ‘he,’ ‘I,’ etc.), which cannot be

¹ The distinction between roots, stems, and words may be shortly put thus:—The *root* is the original part of the word, giving a certain idea; the *stem* is that idea more closely defined to a certain bearing of it; the *inflected form* (or *word*) is the complete word as used in speech in connection with other words in a sentence. Compare ‘Elucidations to Curtius’ Greek Grammar,’ Translator’s Preface, p. vii.

traced back to predicative roots and must be considered independent of those ordinarily so called. These pronominal roots enter considerably into the formation of inflections¹, as well as of the pronouns and pronominal particles (i. e. conjunctions and some adverbs and prepositions).

Stems.

Stems (also called ‘bases’ or ‘themes’) arise from roots by modification of the root-vowel, or addition of formative suffixes. Roots express a possibility (potentiality) of action. The stems formed from them denote for verbs the action itself, for nouns the person, state, or thing concerned in or resulting from that action. Thus the root *da*=giving (potential); *da-dā-mi*, διδωμι, *do* = ‘I give;’ δοτήρ, *da-tor* = the person giving, the giver; δόσις=state of giving; *do-num*=thing given. The *stem* of a word is most readily detected by observing what remains when the ‘inflection’ (i. e. declension or conjugation ending) is withdrawn.

Inflections.

Inflections are the alterations in or additions to a word, to fit it for different functions as parts of a sentence: the common part which remains the same under these different uses being the *stem*. Thus in *λόγος*, *dominus* :—

- N. λόγος.
- A. λόγον.
- V. λόγο- (stem used interjectionally, and ο sinks to ε).
- G. λόγο-syo, λόγο-iο, λόγο-ο (λόγου).
- D. λόγο-οι, λόγῳ.

The common part λογο- is the *stem*: the *root* is λεγ-, seen in λέγ-ω.

¹ A list of Indo-European pronominal roots is given in Leo Meyer's ‘Vergleichende Grammatik,’ I. pp. 324-335; cp. Ferrar, ‘Comp. Gram.’ § 95. The following are among the more important of these roots and their derivatives: *a*, whence probably the augment (in Sanskrit *a*), and possibly ἐγώ, *a-με-*s (ἡμεῖς), etc.; *i*, in *i-d*, *i-pse*, *i-ta*, etc.; *kra* (who), Skt. *ka-s*, Gk. *τίς*, Lat. *quis*; *πῶς*. Ion. *κῶς*, *κα-ί* (a locative), *κεν*; *ta* (demonstrative), whence Gk. *τόν*, *τήν*, *τό*, *οὗτος*, etc.. Lat. *is-te*, *ipse*, (for *ip-te*), *tum*, *tam*, *item*, etc.; *da*-, whence ποδα-πός, ὅδε, *quidam*, *unde*, etc.; *sa* (demonstrative), Gk. ὁ, ἡ; *na*, *an*, *ana*, whence Gk. *νώ*, *νή*, *νῶν*, *ἄν*, ἐν, *άνα*, Lat. *nos*, *ne*, *num*, *in*, etc.: *pa*, in *ἀ-πό*, *παρά*, *περί*, *ab*, *pro*, *per*, etc.; *bha*, in Skt. inflections, -bhyas, -bhyām, and -bhīs, Gk. -φι, and Lat. -bis, -bus of dat. abl. plur.; *ma*, *tra*, and *seu* of 1st and 2nd pers. and reflexive pronoun.

N.	domino-s,	dominus.
A.	domino-m,	dominum.
V.	domino-,	dominē (as above).
G.	domino-i,	domini.
D.	domino-i,	dominō (or illo-i, illi).
Abl.	domino-o,	dominō.

The common part *domino-* is the *stem*: the root is *dom-*, seen in *dom-a-re*, δέμ-ειν, etc.: -*ino-* is a *suffix* added to the root to form a nominal base or stem.

[Note that the *stem* is distinct from the *inflected word*, and must not be confounded even with the Nominative Case, e.g. σώφρον- (seen in oblique cases σώφρον-ος, κ.τ.λ.) is the stem of σώφρων, πραγματ- of πρᾶγμα; and Latin words like *consul*, *mulier* have dropped the final -*s* indicating the Nominative Case.]

So *vox=vōc-s*. The root is *vōc-* (seen in *vōc-o*): the stem by modification of the root-vowel.

φά-τι-*s* (speech, report), root φα- ; nominal suffix -τι-, inflection -*s*. The same root φα is lengthened to form a verbal stem φη-μί: the nominal stem is φατι-.

So in the formation of *Verbs*:

εἰμί (*ibo*): root ἵ (in ἵ-μεν); stem εἱ, by modification of root: inflection -μι.

εἰμί (*sum*)=εσμί, Sanskrit asmi. Root and stem (in this case identical) εσ. Inflection -μι.

δρ-νν-μι, root δρ-, verbal suffix -νν- to form the present stem.

φεύγ-ω=φεύγ-ο-μι. Root φυγ- (in ἔ-φυγ-ον, 2 aor.) modified to form the present stem; inflection -μι; 'thematic vowel,' increasing the stem before inflection, -ω- (appearing also as o in φεύγ-ο-μεν, ε in φεύγ-ε-τε, and o, i, u in Latin, e. g. *fer-o=phēp-w*, *fer-i-mus, fer-u-nt*)¹.

[Note that in the Conjugation of verbs we must distinguish different Verbal-stems called generally 'Tense-Stems,' each the common element of a number of forms of the same

¹ In the first edition of this work the earlier view of Curtius that this ω (o, e, i, u) is a 'connecting vowel' was adopted; but has now been abandoned for reasons given below (ch. viii).

verb. Thus in the scheme of $\tau\acute{u}\pi\tau\omega$ we have the ‘pure verbal stem’ - $\tau\upsilon\pi$ - (seen in 2 aor. $\dot{\epsilon}\text{-}\tau\acute{u}\pi\text{-}\eta\nu$) ; the ‘present stem’ $\tau\acute{u}\pi\tau$ - common to all forms of present and imperfect tense; the ‘perfect stem’ $\tau\acute{e}\tau\upsilon\phi$ - ; the ‘weak aorist stem’ - $\tau\upsilon\psi\alpha$ -, and the ‘strong aorist stem’ - $\tau\upsilon\pi$ - identical with the ‘pure verbal stem.’ The fuller consideration of these will fall under the head of Verb-Inflection (chap. viii), and they are enumerated now by way only of illustration.]

Word-for-
mation.

There are four main processes of word-formation from roots; viz. :—

(1) *Reduplication*—in imitative names and perfect stems, etc.

(2) *Internal Change* by ‘raising’ or ‘intensifying’ the root-vowel.

(3) *Addition of Suffixes*.

(4) *Composition*, i. e. the formation of two or more words into one.

Of these processes (1) and (2) have been considered and illustrated under the head of ‘Dynamic Change’ (chap. iv. pp. 51–55); (4) is generally treated of in the grammar of each language. We are now, therefore, concerned mainly with (3) Addition of Suffixes.

This term ‘suffix’ is applied by writers on philology to different elements in word-formation, which must be carefully distinguished. Thus we speak of

1. ‘*Suffixes*’ of *Inflection*, i. e. the ‘*Inflections*’ properly so called; the case-endings of nouns and person-endings of verbs. These will be considered at length in chaps. vi–viii.

2. ‘*Formative Suffixes*,’ by the addition of which to ‘roots’ are formed ‘bases’ or ‘stems.’ And as bases or stems are either verbal or nominal (above, p. 93), so the formative suffixes may be divided into ‘verbal’ and ‘nominal suffixes.’

a. The *verbal* suffixes are chiefly -ya and aya from which are formed the verb-stems of all the contracted (and many other) verbs in Greek, and of the first, second, and fourth ‘conjugations’ in Latin [see below in the Appendix to this chapter].

b. The *nominal* suffixes are more numerous: a list of the more important is given on pp. 102, 103. Not unfrequently a nominal stem is used to form a verb as well as a noun; e.g. $\phi\lambda\sigma\sigma\omega$ is formed from $\phi\lambda\alpha\kappa-$, the nominal stem of $\phi\lambda\alpha\xi$ ($\phi\lambda\alpha\kappa-s$), *acu-o* from *acu-*, the nominal stem of *acu-s* (a needle). Such verbs are called *nominal* (sometimes *denominative*) verbs.

3. *Stem Suffixes*, a class of verbal suffixes perhaps originally formative like *ya* and *aya*; but unlike these, found only in the present and kindred tenses. Such are *na*, *nu* ($\mu\alpha\rho-\nu a-\mu a i$, *sper-no*, $\delta\varepsilon\kappa-\nu v-\mu i$, etc.); *ska* (verbs in *-σκω*, *-sco*); *ta* ($\beta\lambda\alpha\pi-\tau-\omega$, $\tau\iota\kappa-\tau-\omega$, *necto*, etc.); and according to Schleicher the ‘thematic’ vowel *a* (*bhar-ā-mi*, $\phi\epsilon\rho-\omega(\mu i)$, etc.). Most common however as a stem-suffix is *ya*, appearing as *i* in *ἰδ-i-ω*, *δa-i-ω*, etc.; as *ε* in *δοκέω*, *γαμέω*, and certain other verbs in *εω* which are distinguished from the regular formation with *aya* by having this suffix confined to the present stem; and passing by assimilation (p. 104) into *λλ* ($\beta\acute{\alpha}\lambda\lambda\omega=\beta\alpha\lambda\gamma\omega$), *σσ* or *ττ* ($\phi\lambda\alpha\sigma\sigma\omega=\phi\lambda\alpha\kappa-y\omega$, etc., see p. 75), or *ζ* ($\epsilon\lambda\pi\iota\zeta\omega=\epsilon\lambda\pi\iota\delta-y\omega$); and in the verbs in *io* of the third conjugation in Latin (*cap-i-o*, *fug-i-o*, etc.), and (possibly) after assimilation in *pello*, *curro*, etc.

Of the origin of all these suffixes nothing more is known than that the verbal suffixes were probably for the most part ordinary or ‘predicative’ roots, the nominal suffixes for the most part ‘pronominal’ or ‘demonstrative’ roots.

APPENDIX TO CHAPTER V.

A. LIST OF NOMINAL SUFFIXES¹.

Nominal Suffixes are either *Primary* or *Secondary*. Primary Suffixes are those by which Nouns are formed from Roots or Verbal stems: Secondary Suffixes (also called *Denominative*) are those by which Nouns are formed from Nominal stems.

Derivative
Suffixes.

1. *ya* (Greek *-ιο*, Latin *-io*): *ἄγ-ιο-s*, *μοῖρα*=*μόργα*, *ὅσσα*=*ὅκյα*, *eximius*, *coniugium* (root *iug* of *iugum*), *ingenium*. As sign of feminine; *φέρουσα*=*φέροντ-γα*, *μέλαινα*=*μέλαγα*.

2. *-va* (*vo*), *van*=*Fo*, *Fov*: *αιών*=*aiFων*, *aerum*: *arvum* (root *ar* of *arare*), *vacuus* (*vac* in *vac-are*).

Fεντ (secondary): *χαρίεις*, *χαρίFεντ-os*, *χαρίεσσα*=*χαριFετ-γα*.

Fοτ: *εἰδώς*=*εἰδ-Φότ-s*.

3. *-ma*, *-mo*, *-mon*, *-mat*, *-meno*: *τιμή*, *θυμός*, *τλήμων*, *εἶμα*=*έσσματ*, *ὄμμα*=*όπματ*; *forma*, *animus*, *sermo(n)*; partic. mid. *διδόμενος*, *alumnus*; infin. *ἔδ-μεναι* (Homer).

4. *-an*, *-ana*, *-na*: *τέρην* (-*ενς*), *pecten*; *ὄργανο-ν*, *ἴκανό-s*, *ἡδονή*. Infin. *-ναι*, *-εναι*; *λελοιπέναι*, *στῆναι*, *φέρειν*=*φέρεναι*; *donum*, *somnis* (*sop-nus*): part. in *-dus*, *-on-do*, *-en-do*, *-un-do*. Secondary *-ιο-*, as *λιθ-ιο-s*.

5. *-ta*, *-to*, *-tat*, in adject., subst., part. pass., and verbal adject.: *πολίτης*, *κοῖτος*, *secta*; *κλυτός*, *γνωτός*, *αματός*; *νεότης* (*νεοτητς*), *civitas* (*civitat-s*).

6. *-tar*, *-ter*, *-tor*, *-tra*, etc., in words expressive of relationship and *nomina agentis*: *πατήρ*, *φράτωρ*, *σωτήρ*, *ἱατρός*, *ρήτρα*: *pater*, *victor* (or with additional suffix for fem. *vict(o)r-iē-s* *victrix*). Part. fut. stem *-turo*: and feminine *nomina actionis*; *sepultura*, *usura* (*ut-tura*).

7. *-ti*, *-si*, etc. in *nomina actionis*: *μῆτι-s* (root *μα*), *φάτι-s* *φύσις*; *mensis* (= *met-ti-s*), *vectis*, *potis*, *compos* (*compot-s*), *dos*

¹ Fuller particulars may be found in Schleicher, 'Compendium,' §§ 215-231 (pp. 361-462 German third edition).

(*dot-s*), *mens* (*ment-s*). Further formations; *-σια* femin. *θυ-σία*, *δοκιμασία*: Latin *-tio*, *-tia*, *initio*, *servitio*, *justitia*.

8. *-tu*, *βρωτύ-s*, *ἄστν*; *-σνη* (*-τνη*), secondary suffix in *μνημοσύνη*, *δικαιο-σύνη*. In Latin much commoner; e.g. verbal nouns in *-tus*, whence supines in *-um* and *-u*, *dictu*, *ama-tum*, *casum* = *cad-tum*, etc.; cf. *appara-tus*, *soni-tu-s*, etc. of purely substantival use. *-tuo* (*-tra*), a further formation in *mortuus*, *statua*, etc.: *-tu-ti*, *-tudon* or *-tu-din* in *servi-tut-is*, *altitudinis*.

9. *-ant*, *-ent*, *-ont* in partie. act. of pres. fut. and aor. *ων* = *ἐσ-όντ-*, *ἐονσα* = *ἐσ-οντ-γα*; *ιστάς* = *ἴσταντ-s*; *θείς* = *θέντ-s*. So Latin *-ens* = *ent-s*: e.g. in *prae-sens*, *sens* = *es-ent-s* (*ἐσ-οντ-s*); and the further formation in *praesentia* corresponds to Greek fem. *-ονσα* = *οντ-γα*.

10. *-es*, *-os*, *-us* in neuters, *γένος*, *genus* (genitive *γένε(σ)-os*, *gener-is*), *ψευδής* (stem *-εs* in neuter *ψευδές* and genitive *ψευδέ(σ)os*, *ψευδοῦς*). Masculines in *-or=os*, *sopor*, *honor*, *labor*, (*honos*), *labos*).

11. *-ka*, *-co*, Greek *θῆ-κη*, and (secondary) the adjectival suffix *κο-*, *φυσι-κός*, κ.τ.λ. Latin *pau-cus*, *lo-cus*, *civi-cus*, *belli-cus*, etc.

12. *-ra*, *-la*, Greek *ἐρυθ-ρό-s*, *λαμπ-ρό-s*, *ἄκ-ρο-s*, κ.τ.λ.; *δει-λό-s* (root *δι* in *δέ-δι-μεν*, *δέ-δοι-κα*), *σιγη-λό-s*; *φυ-λή*, *όμιχ-λη*. *-ερο-* is a secondary variety of this suffix, *φοβερός*, *δροσερός*: but the *ε* is perhaps only the *o* of stem *φοβο-*, *δροσο-*. The element *-ρο* or *-λο* seems to enter into other suffixes, *-υρο*, *-ωρη*, *-ωλο*, *-ωλη*, *-ιλο*. Latin *rub-ro-*, *gna-ro-*, *ple-ro-*, etc. *Sella* = *sed-la* (= *ἔδ-ρα*), *cande-la*, *loque-la*, *ala*, *velum*, etc. The element *-la* also appears in other suffixes, *-ulo-*, *-ula-*, *-ili-*, etc.

B. DERIVATIVE VERBS IN GREEK AND LATIN, FORMED BY ADDITION OF THE SUFFIX *-aya*, OR *ya*.

1. *-āv*: *-ῶ* = *-ῶ* = *-ῶ* } = *āyω* = *ayā-mi* ;
-āre: *-ō* = *-ao* }

e.g. Sanskrit *damāyāmi*, Greek *δαμάω*, Latin *domo* (*domāo*), Gothic *tamja*, German *zühme*.

Many derivatives in *-āv*, *-āre* are connected with fem. substantive stems in *-ā*; e.g. *κομάω*, *κομᾶ*, Lat. *como*, with *κόμη*,

comā, *κομά-γω*, *comā-yo*. Others with -ō stems (originally -a); e.g. *ἀντιᾶν* (*ἀντίο-s*), *armāre* (*armo-*) *firmare* (*firmo-*).

2. $\begin{array}{l} -\epsilon i\nu : -\hat{\omega} = -\acute{\omega} \\ \quad \quad \quad -\bar{e}re : \quad \quad \quad -eo \end{array} \Big\} = \acute{y}\omega = ay\hat{a}mi;$
e. g. *ἀρκέω*, Lat. *arceo* (*arkáyāmi*).
3. $-o\bar{o}\nu, \quad -\acute{\omega} = \acute{y}\omega = ay\bar{a}mi.$
4. $\begin{array}{l} -\acute{\epsilon}\iota\nu, \quad -\acute{\omega} \text{ (or } i\xi\omega) \\ \quad \quad \quad -\bar{i}re, \quad -io \end{array} \Big\} = i\acute{y}\omega = ay\bar{a}mi.$
5. $\begin{array}{l} -\acute{\nu}\epsilon\nu, \quad -\acute{\nu}\omega \\ \quad \quad \quad -ue\bar{e}, \quad -uo \end{array} \Big\} = \acute{y}\omega = uy\bar{a}mi.$

So in Sanskrit *gátu-yámi* (*gātū*), Greek *γηρύω* (= *garuyomi*), stem *γηρυ-*.

6. $\begin{array}{l} -\acute{\alpha}\zeta\epsilon\nu \\ -\acute{\epsilon}\zeta\epsilon\nu \\ -\acute{\nu}\zeta\epsilon\nu \\ -i\zeta\epsilon\nu \end{array} \Bigg\}$ In these the ζ arises from the effect of the *j* (*y*) sound upon a preceding consonant, guttural or dental; e.g. *ἀρπάζειν* = *ἀρπάγ-γειν* (*ἀρπαγ-ή*), *θαυμάζειν* = *θαυμάδ-γειν* (*θαυμα-*), *πιέζειν* = *πιέσ-γειν* (*πεπίεσ-* *μαι*, *ἐπιέσ-θην*), *οἰμώζειν* = *οἰμώγ-γειν* (*οἰμωγ-ή*), *ἐλπίζειν* = *ἐλπίδ-γειν*, *χαρίζεσθαι* (*χάριτ-os*), *δλολύζειν* (*δλολυγ-ή*).
7. $-\sigma\sigma\epsilon\nu : \sigma\sigma = ky, \gamma y, \chi y, \tau y, \theta y :$ e.g. *θωρήστειν* (stem *θωρηκ-*), *ἀλλάσσειν* (*ἀλλαγ-ή*), *δρύσσειν* (*δρυχ-ή*), *κορύσσειν* (*κορυθ-*), *ἐρέσ-* *σειν* (*ἐρέτ-ης*, *ἐρετ-μός*). See pp. 74–76.
8. $\begin{array}{l} -a\acute{i}\rho\epsilon\nu = \acute{u}\rho\gamma\epsilon\nu \\ -\acute{e}\iota\rho\epsilon\nu = \acute{e}\rho\gamma\epsilon\nu \\ -\bar{u}\rho\epsilon\nu = \acute{u}\rho\gamma\epsilon\nu \end{array} \Bigg\}$ The *y* sound being thrown back into the stem syllable and becoming the vowel sound of *i* (cp. *μέλαινα* = *μέλαν-γα*, p. 102).
9. $\begin{array}{l} -\acute{\alpha}\lambda\lambda\epsilon\nu \\ -\acute{\epsilon}\lambda\lambda\epsilon\nu \\ -\acute{\delta}\lambda\lambda\epsilon\nu \\ -\acute{\upsilon}\lambda\lambda\epsilon\nu \end{array} \Bigg\}$ Probably from *λy*: but as no noun-stems end in *λ* (*ἄλ-s* excepted), these are derivatives from stems in *-λο*, the stem-vowel *o* being lost.
10. $\begin{array}{l} -a\acute{i}\nu\epsilon\nu \\ -\acute{e}\iota\nu\epsilon\nu \\ -\acute{i}\nu\epsilon\nu \\ -\acute{\upsilon}\nu\epsilon\nu \end{array} \Bigg\}$ *y* sound thrown back as vowel into the stem syllable, as *-aíρειν*, etc., above.

[A large number of examples under each of the above heads may be found in Leo Meyer's 'Vergleichende Grammatik,' vol. ii. pp. 1–78.]

CHAPTER VI.

NOUN INFLECTION.

To the stem of an Indo-European noun are added (1) the inflections of case; (2) in the plural, the sign of number. The dual is perhaps an earlier expression for multiplicity¹ (more than one), a survival from a primitive epoch, which in Latin and in most modern languages has fallen out of use altogether; and where retained, as in Greek and Sanskrit, has a tendency to disappear as a useless exuberance of expression. In Hellenistic and Modern Greek it does not exist.

The cases were originally eight: viz. Nominative, Accusative, Locative, Dative, Ablative, Genitive, Instrumental; and outside of these, the Vocative, which is no *case* properly so called, but the uninflected noun-stem used as an interjection². Sanskrit alone, however, retains the full number of independent case forms, and that only in the singular number: for in the plural the vocative disappears (the nominative being used, as in Greek or Latin), the dative and ablative unite, and the instrumental has only one form (as against two in singular); while the dual has only three distinct forms, one for nom. and acc., one for instr. dat. and abl., and one for gen. and loc. In the singular too gen. and abl., loc. and dat., are nearly related in form.

¹ ‘All over the world reduplication seems to have been the earliest contrivance for denoting something beyond the singular, and to this day in Bushman, as in many savage jargons, it serves for a plural’ (Sayce, Introd. vol. i. p. 411). The doubling of an object appears in such cases to be the furthest point of multiplicity to which the mind can reach. I have observed in a child learning to speak, that for some time he applied the expression ‘Two men,’ to any number larger than one.

² See however below, p. 117.

Merging of
separate
Case-forms.

In the kindred languages, the loss of distinct case-forms—or, to speak more correctly, the merging of two or more originally distinct case-forms into one—must have begun early in their linguistic growth. The oldest accessible remains of the Greek language show us the ablative merged in the genitive; though Latin, on the other hand, has retained the distinction of form. The dative and locative, again, have become one in Greek, and to a certain extent in Latin: while the instrumental has vanished from both. In both languages, however, we shall find remnants of both locative and instrumental *forms*, and Greek has at least one conspicuous remnant of its lost ablative case in the common adverbial termination *-ως*. The confusion in practice of the clear grammatical distinctions between different cases naturally led to intermixture and confusion of forms; so that no formula will represent all the correspondences between the case terminations of the three languages in question; but a general idea may be given thus:—

<i>Sanskrit.</i>		<i>Greek.</i>		<i>Latin.</i>
Nom.		Nom.		Nom.
Acc.		Acc.		Acc.
Dat.	}	Dat.		Dat.
Instr.	{	"		Abl.
Loc.	{	"		
Abl.	{	Gen.		Gen.
Gen.	{			
Voc.		Voc.		Voc.

Gender.

Gender.

The distinctions of *gender*, originating doubtless in the desire to give different names for creatures in which there is conspicuous difference of sex, has been in most Indo-European languages artificially extended far beyond the limits of natural sex. ‘The world of untraceably sexual or of unsexual objects is not relegated to the indifferent “neuter;” great classes of names are masculine or feminine partly by poetical analogy, by an imaginary estimate of their distinctive qualities as like those of one or the other sex in the higher animals, especially man; partly by grammatical analogy, by resemblance in forma-

tion to words of gender already established. At any rate, in the common Indo-European period all or nearly all attributive words were inflected in three somewhat varying modes, to indicate generic distinctions; and the names of things followed one or other of these modes, and were masculine, or feminine, or neuter¹. Yet, widespread as is their employment of generic distinction, the Indo-European languages have no special phonetic element for its expression; but, as occasion arose, various secondary means were employed. This seems to show that the universal distinction of gender which we find in Greek and Latin is neither original nor necessary, but a subsequent development of language.

Modes of generic distinction :—

1. In Consonant-Stems and stems in *-i-*, *-u-*, or a diphthong (*πατήρ*, *μήτηρ*, *facilis*, *manus*, *rāv̄s*), the only distinction of gender is by external means, i. e. by the gender of some other word in grammatical agreement (*ό πατήρ*, *ἡ μήτηρ*, *saeva manus*, etc.). With *ā* stems (including *a-* *o-* stems) the raising of the vowel to *ā* (Greek *η*, Latin originally *-ā* of fem. sing.) generally denotes feminine gender. Occasionally however *ā* is mase. (*πολίτης*, *advenā*, the original quantity), and *ā* (*ō*, *ū*) is fem. (*όδος*, *mālus*, *humus*, etc.): so that this means of generic distinction is not of invariably certain application.

2. Certain case-suffixes are appropriated to a particular gender; or a case is not employed in a particular gender, but its place is supplied by some other form. Thus in nom. sing. the neuter has no final *-s*, either the accusative (*novum*, *δευόν*) or the mere uninflected stem (*ἀληθές*, *εὐρύ*, *facile*, *facili*) being used.

3. Originally identical forms are distinguished, and the distinction adopted as a mark of gender: e. g. with the breaking up of the *a* sound into *a o*, *novo-d*, *nora-d*.

4. Certain stem forms are appropriated to certain genders, especially feminines, in *-ya*, *-is*, *-ic*, etc.; *φέρουσα*=*φέροντγα*, *δότειρα*=*δότεργα*, *αὐλητρίς*, *victrix*=*vict(o)r-ic-s*, etc.

[The distinction of gender is retained in the Teutonic languages, e. g. modern German, and the Romance derivatives

Gender in
modern lan-
guages.

¹ Ferrar's 'Comparative Grammar,' p. 200.

Gender in
modern lan-
guages.

from Latin. English has abandoned the artificial part of the system, retaining a difference in *form* only where sex is really an important distinction (e. g. *man*, *woman*; *bull*, *cow*; and the suffix *-ess* in *Princess*, *lioness*, etc.), but it retains its fundamental distinction in the pronouns *he*, *she*, *it*, or *who* and *what*. Other languages (e. g. modern Persian) have lost even that generic distinction: and in most of the agglutinative and isolating languages grammatical gender is said never to have existed at all¹. There is of course in the necessity of things no reason for choosing one particular accident of a conception rather than another as a subject for grammatical distinctions; but, as a matter of fact, there is always a strong natural personifying tendency at work in men's minds, leading them to invest even inanimate things with the idea of sex. Thus a ship to a sailor, a railway train to a porter, is always '*she*,' and uneducated people often use the pronoun '*he*' where ordinary usage prescribes '*it*.' These are examples of the *natural* tendency to extend distinctions of gender taking effect in a language which has generally repudiated such extension to all objects as unnecessary: and it is to the unrestrained working of such natural tendencies that we may ascribe the great development of generic distinction at an early period in the Indo-European languages, before, in fact, they had as yet branched off from the primitive stock.]

Declension.

Principles of
division into
Vowel and
Consonant
Declension.

Nouns are divided into two main classes or 'declensions' according to the final letter of the stem: viz. :—

I. *Vowel-Declension* (or A declension), including stems which end in *-a*, *-e*, *-o* (the three varieties of *a* the original vowel); and thus comprising the 1st (*musa-*), 2nd (*domino-*), and 5th (*facie-*) 'declensions' of Latin Grammar; and the 1st (*πολιτα-μονα-*) and 2nd (*ταυρο-*) of Greek Grammar.

II. *Consonant-Declension*, including stems which end in a consonant, or the semi-vowels *-i*, *-u*, or diphthongs *av*, *eu*, *ov*: thus comprising the 3rd and 4th 'declensions' in Latin (*judic-is*,

¹ Sayee, 'Introd.' i. p. 404.

*navi-s, gradu-s), and the corresponding nouns in Greek ($\phi\imath\lambda\alpha\kappa$ -*os*, $\pi\delta\iota\iota\iota$ -*s*, $\beta\acute{o}\tau\rho\nu$ -*s*, $\beta\alpha\sigma\iota\lambda\epsilon\nu$ -*s*, $\nu\alpha\bar{\nu}$ -*s*, $\beta o\bar{\nu}$ -*s*). A small number of nouns with stems in *o-* or *ω-* follow the inflections of this declension, e. g. $\pi\epsilon\iota\theta\omega$, $\pi\epsilon\iota\theta\dot{\omega}$ -*os*: $\eta\rho\omega$ -*s*, $\eta\rho\omega$ -*os*. The stem of words in this declension is best recognised in Greek in gen. sing., where all that remains after deducting the termination -*os* is the stem, e. g. $\lambda\acute{e}\omega\nu$, $\lambda\acute{e}\omega\eta\tau$ -*os*; $\dot{\nu}\nu\mu\alpha$, $\dot{\nu}\nu\mu\alpha\tau$ -*os*. This is sometimes (but by no means always) the case in Latin, e. g. *comes, comit-is; judex, judic-is*. The final consonant will of course generally be shown in this way, but the weakness of Latin vowel sounds (p. 56) often obscures the true vowel of the stem; thus in *auspex, auspic-is*, the nom. *auspec-s* gives the true form (*spec-*). Often neither retains it, e. g. *remex, remig-is*, the true form being *ag-*; *auceps, aucupis* (true form *cap-*). Such varieties however fall under the head of Latin Sound-Lore.*

There are certain differences between the inflections of the Differences of Inflection between the two declensions. To classify *i, u*, and diphthongal stems under the consonantal than under the vowel declension. Thus, in Greek:—

- (a) In gen. sing. consonant declension has always -*os* (-*ωs*).
- (b) In nom. plur. „ „ „ -*es*.

In Latin:—

(a) Gen. sing. and nom. plur. end in a long vowel or diphthong in the vowel declension; in -*s* in the consonant declension.

(b) Gen. plur. of vowel declension -*rum*; consonant declension -*um*.

(c) Dat., abl. plur. of vowel declension -*is*; consonant declension -*bus*.

[In older Latin however some of these differences apparently did not exist: for we find in nouns of the vowel declension -*aes*, -*as*, -*es* as gen. sing. of *a* stems (see below, on Gen. Sing.), and -*um* as term. of gen. plur. in both *a* and *o* stems; while certain words show -*bus* in dat. and abl. plur. Archaic Latin thus furnishes materials for approaching nearer to a uniform system of inflection for all stems than do the earliest traceable stages of the Greek language¹. In Sanskrit there is but one general

¹ See Roby's 'Latin Grammar,' vol. i. Book II. ch. xii.

scheme of terminations, the classes of declension (eight in number) signifying the different modes of combining the final letter of the stem or base with the termination: a system which might, no doubt, have been carried out by Latin and Greek grammarians, had there been an equally careful grammatical analysis at an equally early stage in the history of those languages, and had the formation of nouns and verbs from roots and 'erude bases' or stems been traceable with the same clearness as in Sanskrit.]

Nominative Singular:—

Nom. Sing.,
Greek and
Latin.

In vowel
stems.

Formed in all nouns by suffixing *-s* to the stem. This *-s* is generally regarded as representing a pronominal root *-sa* (demonstrative pronoun); *sa*=Greek *ὅ* (ep. p. 66); *sā* (fem.)=ἡ. In Greek and Latin the *-s* of nom. sing. is retained in many words, which therefore need no further explanation (e. g. *Aeneas*, κρίτης; *dominus*, θεός; *urbs*, πόλις, *gradus*, *facies*, βασιλέύς). From others it has disappeared, but its presence can sometimes be traced: e. g. Latin masc. vowel stems in *-a* have lost it, but such double forms of masculine words as *īππότης* and *īππότα* (Hom.), *aīχμητής* and *aīχμητά*, perhaps point to its having once existed. More to the purpose, as evidence, are the archaic Latin forms *paricidas*, *hosticapas*, and *poeta*, *Apella*, beside *ποιητής*, Ἀπέλλης. Bopp (§ 136), Schleicher (§ 246), and others, assume its loss from feminine stems in *a-*, as *bona*, *ἀγαθά*, *sivā*: but there is no satisfactory evidence that such stems ever took the *-s* of nom. sing. Benfey ('Orient and Occident,' i. p. 298) maintains that they did not.

In Greek
Cons. stems.

Consonant Stems (Greek).

Guttural and Labial stems: *-s* with the stem vowel becomes *ξ* or *ψ*. *φύλαξ* (stem *φυλακ-*), *φλόξ* (*φλογ-*), *ὦψ* (*ὤπ-*).

Dental Stems: *τ* and *δ* never remain before *s*, but disappear, the preceding vowel being often lengthened in compensation, e. g. *λαμπάς* (*λάμπαδ-s*), *χάρις* (*χάριτ-s*), *τετυφώς* (*τετυπτοτ-s*). In *δάμαρ* (*δάμαρτ-*), both *τ* and *s* disappear. Stems in *-ντ* sometimes lose both consonants before *s* (*τύψᾶς*=*τύψαντ-s*, *δούς*=*δοντ-s*), sometimes lose *τ* and *s* retaining *ν* (*φέρων*=*φέροντ-s*).

Nom. Sing. In *-ν* stems sometimes the *ν*, sometimes the *-s* is lost; the

vowel being in each case lengthened, e. g. *τάλας* (stem *ταλαν-*), Nom. Sing. *φρήν* (*φρεν-*), *χθών* (*χθον-*) : and sometimes both forms are found, e. g. *θίσ*, *θίν*; *δελφίς*, *δελφίν* (that in -*s* being the older).

After -*ρ* stems, *s* is lost, *πατήρ* (*πατερ-s*) : but Aeolic keeps both consonants, — *χέρψ* (= *χείρ*), *μάκαρς*. In *μάρτυς* (*μάρτυρ-os*) the *ρ* disappears. The solitary -*λ* stem (*ἄλς*) retains both λ and *s*.

In -*s* stems the second -*s* denoting nom. sing. is lost and the vowel lengthened, e. g. *ἀληθής*, stem *ἀληθές*.

Consonant Stems (Latin) :—

In Latin
Cons. stems.

Guttural and Labial stems: *s* is added to the stem, e. g. *vox* (*voc-*), *lex* (*leg-*), *auceps*, *urbs*.

Dental stems: *t* and *d* disappear before -*s* and the preceding vowel was originally lengthened in compensation ; but in Classical Latin the tendency to shorten final syllables has again shortened the vowel, except in monosyllables and after *i*-preceding. Thus *pēs* (*pēd-is*), *ariēs* (*ariēt-is*) : but *milēs* (*milit-is*), *equēs* (*equīt-is*), etc. Stems in -*nt* only reject *t* (*amans*, *amant-is*), Latin being more tolerant than Greek of combinations of final consonants ; but in old Latin and in the common dialect we find *infas*, *sapies*, etc. (cp. the parallel forms *quoties*, *quotiens*).

In -*s* stems -*s* of nom. sing. is lost, and the preceding vowel originally lengthened, but in Classical Latin generally short. We find however *Cerēs* (*Cerēs-is*), *arbōs* (*arbōr-is*). In the declension of such stems the final -*s* became *r* in oblique cases (except *vas*), and this *r* often supplanted final -*s* of nom., e. g. *arbōs*, *arbōr*; *honos*, *honor*; *vomis*, *vomer*; *robur* cp. with *vetus* (the -*s* being in all cases the older form). Stems in -*n* if mase. or fem. lose -*ns*, as *homo* (*homon-s*) ; but in some words *n* is retained (*pecten*, *flamen*), and in *sanguis* (originally *sanguīs*, Luer. iv. 1050)=*sanguin-s*, -*s* is retained and *n* lost. After -*r* and -*l* stems -*s* is always lost, but the preceding vowel was originally lengthened as in Greek: *sāl* (*sūl-is*), *pār* (*pār-is*), *actōr* (*actōr-is*).

In -*i* and -*u* stems *s* is generally kept (*igni-s*, *gradu-s*) : but where *r* or *l* after another consonant precedes *i*, the full termina-

tion *-is* is lost, and *e* inserted before *r*; e. g. *acer=acri-s*, which remains as fem. nom.; *vigil=vigilis*.

Sanskrit
Nom. sing.

[In Sanskrit nom. sing. *-s* is omitted after consonantal stems, the vowel being sometimes lengthened in compensation, sometimes not. Thus *vāk* is nom. sing. from stem *vāc-*, Latin *vōv=voc-s*, and *durmanās* ($\delta\upsilon\sigma\mu\epsilon\nu\jmath\varsigma$) nom. sing. of stem *durmanas* ($\delta\upsilon\sigma\mu\epsilon\nu\acute{\epsilon}\varsigma$); but *bhāran* ($\phi\acute{\epsilon}\rho\omega\tau$) is nom. sing. of stem *bharant-* ($\phi\acute{\epsilon}\rho\omega\tau-$). Stems in *ār* (masc.) and *ār* (fem.) reject both *r* and *s*, thus *pitā* (stem *pitar*)=*πατήρ*, *dātā* (stem *dātar*)=*δοτήρ*. It will be observed that in all these words the Greek forms of nom. sing. are fuller than the corresponding Sanskrit.]

Nominative Plural :—

Nom. Plur.: Originally a reduplication of the sign for nom. sing., *-sasa*; then *-sas* (which is actually found in Vedic Sanskrit as nom. plur. termination in *a-* stems, e. g. *āçva-sas* from *-āçva-s*); and finally *-as* (Greek *-es* of consonant declension), which is the form in most Indo-European languages, and survives in one of the few remaining English inflections, the *-s* of plural signification.

In Greek: In Greek *-es* (= *-as*) is added to consonant stems, as *ποιμέν-es*, *ἰχθύ-es*, *μάντι-es*. Sometimes the vowel of *-i* and *-u* stems is raised; e. g. *πόλεις*, *πόληes*, *πόλεes=πόλεy-es* from *πολει-*, the altered form of stem *πολι-* (whence also the Ionic *πόλι-es* without raising the vowel); and *πολεis=πολέf-es* from *πολευ*, the altered form of stem *πολυ-*: cp. *ταχέes*, *ἐγχέλεis*. In these the *v* of stem has been raised to *eu*, and the *v* of this diphthong then changed to *f*, which of course disappears altogether (above, pp. 43, 68).

The nom. plur. of vowel stems *-oi*, *-ai*, shows no trace of final *-s*, though on the analogy of Latin (see below) we should infer that it once existed. It has been suggested (Schleicher, Comp. § 247) that the loss of *-s* began with nom. plur. of pronominal stem *ta-* (*το-*): i. e. *τοi*, *ται*; this stem *ta-* according to the theory being increased by the suffix *ya*, a common derivative suffix (see above, p. 102), would form in nom. plur. *tāy-as*, which by loss of final syllable would become *tāi* (*τοi* or *ται*): and that this termination *-oi* *-ai* was gradually applied by analogy to all *a-* and *o-* stems. This is ingenious; but it rests

upon an assumption for which there is no evidence one way or Nom. Plur. the other ; and in philological enquiries it is better to confine ourselves to the *facts* of language, and to be content with unsolved problems rather than risk hypotheses.

Latin Nom. Plural :—

In Latin.

Consonantal stems ; always in *-ēs*, the quantity of which is supposed to be due to analogy from the *i*- stems. It is probable, however, that the original termination was *-ēs* (corresponding to Skt. *as*, Gk. *es*), which e. g. in *quattuor* has dropped off altogether (cp. τέτταρ-*es*) : so in Umbrian *frater*=*frat(e)r-es*, Oscan *censtur*=*cens(t)or-es*. Nom. plur. of *i*- stems always in *ēs* : here *ēs* was probably added to stem, thus giving *-ies*, which became *ēs*, *īs* or *eis* (all found on inscriptions and in MSS.). [Another explanation is that the stem *i-* was raised to *ey* (as πόλεις=πόλεγ-*es* above) so that *ovēs*=*ovēs*=*ovey-es*.]

u- stems in *-ūs=u-ēs* (cp. νέκυ-*es*).

a- stems ; nom. plur. *ae* or in archaic Latin *-ai*; but it is inferred from a comparison of the other Italian dialects that the original form was *-as* (= *a-es*) e. g. Umbrian *urtas*, *totas* (= Latin *ortae*, *totae* ; Oscan *aasas*, *scriptas* (= *arae*, *scriptae*). *Matrona* (nom. plur.) found on an inscription is supposed to point to this older form in *-as* with *-s* dropped ; but it might equally be an error for *matronai*, and in inscriptions a wide margin must always be allowed for merely casual errors of the cutter¹. If *-as* is the original form, how do we get *ai*, *ae*? The most plausible theory is that the *i* here represents an increase of the stem by *i*, such as will hereafter be shown in the pronominal declension (*ha-i-c*, *haec*, etc. see below, chap. vii). Thus *equae*=*equai*=*equa-i-s* (*s* being dropped, as often in Latin). Or it may be supposed that the *-i-* was added, upon analogy of the pronominal declension, after the loss of final *s*.

In the *o*- declension we get indications that *o-es* (-*ēs* added to the stem *o*-) was the earliest form. The various forms

¹ Ritschl wishes to restore the form in *-as* in Plaut. Trin. II. iv. 138 (to avoid hiatus) :—

‘Nam fulguritae sunt *alternas* arbores.’

Nom. Plur., actually found, which lead to this inference, may be thus arranged¹ :—

a. Oldest Forms: 1. *Fesceninoe, pilumnoe, poploe*, (Carm. Sal.); stem retained in full, and therefore probably the oldest, -s only having dropped.

2. *ploirumē* (Epit. L. Scipio, see Appendix I. i. 2) a contraction from *oe*, but connected with the later forms in *ei, i.*

b. Forms retaining -s (-es, -eis, -is) e. g. *modies, ques* (S. C. de Bacch. see Appendix I. ii.), *eis, libereis, magistris, hisce* (in Ter. Eun. ii. 2. 38). These forms do not appear in inscriptions earlier than 190 b. c., and remain for about a century. To explain the presence in these later forms of the final -s, which the earlier forms had lost, Corssen supposes a transition (by analogy) to the forms of the *consonant (i-)* declension: but it seems at least as natural to suppose that in the early inscriptions we see the result of a tendency to drop final consonants, which was artificially corrected during the second century b. c. (when we know that the *literati* of Rome took great pains to establish a correct standard for their language), but finally prevailed; pronunciation, as usual, obtaining the victory over etymological considerations in fixing orthography.

c. The classical form in -i.

We therefore may trace the stages of change in these forms thus :—

a- stems ; *a-es, ās, a-i(s), ae.*

o- stems ; *o-es, ē(s), e, i.*

eis,

is.

[In Sanskrit, all masc. and fem. stems form nom. plur. in -as before which ī and ū are raised; *vāc-ās* (*vocēs*), *bhárant-as* (*phéροντ-ες*), *sivās* (*siva + as*), *ávay-as* (from *avi-s*).]

Nom. Dual,
Greek and
Sanskrit.

Nominative Dual (Greek) :—

Schleicher assumes for this an original -sās, a lengthened form of nom. plur. (as ī nom. dual neuter, of ī nom. plur. neuter; and *bhyām* dat. abl. instr. dual). This -sās would

¹ See Wordsworth's 'Fragments,' etc.; Introd. ix. 9.

next become *-ās*; but in all Indo-European languages it has been further weakened: in Sanskrit to *āu* (in feminine *ā-* stems to *ē*); in Greek to *ε*, which appears in the consonant declension, but in the vowel declension coalesces with the stem vowel, *ἴππω* = *ἴππω-ε*, *χώρā* = *χώρα-ε*.

In Latin *duo* (Sanskrit *dvāu*) and *ambo* (Sanskrit *ubhāu*, Greek *ἄμφω*) are the only dual forms.

Accusative Singular:—

General type; *-am* for consonant, *-m* for vowel-stems.

Accus. Sing.:
In Greek;

In Greek, *-m* becomes *-ν* by the euphonic laws of the language: and with consonantal stems *-am* appears only as *-a* added to the stem, *λαμπάδ-a*, *ηρω-a*. Vowel stems retain *-ν* (*ἴππο-ν*, *φυγή-ν*). Stems in *ι-*, *υ-* and diphthongs *av-*, *ov-* generally form the accus. sing. on analogy of vowel-stems in *-ν*; *πόλι-ν*, *βύτρυ-ν*, *βοῦ-ν*, *ναῦ-ν*. Stems in *εν-* however are generally treated as consonant stems (*v* becoming *F*), thus *βασιλέ-a* = *βασιλέF-a* (*βασιλεν-*): and the same is not unfrequently the case with other diphthongal and *ι-* and *υ-* stems. Thus we have the Homeric *νῆ-a* (*vῆFa*) beside *ναῦ-ν*; *εὐρέa* = *εὐρέF-a* (*v-* of stem raised to *εν-*, *εF-*) beside *εὐρύ-ν*, and *δόφρυ-a*: and in the other case-endings of *βοῦς*, *βοῦ* is treated as a consonant stem (*βοF*), *βο-όs* = *βοF-όs* (Latin *bov-is*). So too *πόλη-a* = *πόλεy-a* (*πόλι-ς*) beside *πόλι-ν*.

The neuter accus. in consonantal stems is merely the stem subject to euphonic laws of the Greek language: e.g. *τέρας* (*τερατ-*), *μέλι* (*μελιτ-*), *φέρον* (*φεροντ-*), *γλυκυ-*: in vowel stems it ends in *-ν*.

In Latin, *-m* is the invariable ending with masc. and fem. In Latin, stems. The *-em* of consonantal declension is said not to represent I. E. *-am*, but *i-m*: i.e. the stem lengthened by *-i*, which then became *-e* before *m*, in both stems thus lengthened and original *i-* stems, with a few exceptions among the latter¹. It is no doubt desirable to regard these few accusative forms in *-im* among the mass of forms in *-em* as survivals of a more

¹ The following nouns form accus. in *-im*, and ablat. in *-i*:—

Always—*buris*, *tussis*, *sitis*, *vis*, *Tiberis*, etc.

Generally—*febris*, *pelvis*, *pulvis*, *restis*, *securis*, *turris*.

Occasionally—*clavis*, *navis*, *sementis*.

Accus. Sing., primitive form. It might, however, be maintained that *-em* Latin. as seen in *pedit-em*, *equit-em* at first represented *-ām* (*e* being a regular variety of original *a*): and that this *-em* coalesced with the final vowel of *i-* stems into *-īm* or *-ēm* (*i-em*), *-im* being the earlier form; and that finally the analogy of this *-īm* or *-ēm* caused the *-em* of purely consonantal stems to be regarded as a long syllable, upon the erroneous inference that *-ēm* was exactly the same in all words which exhibited it. This view is not less consistent with the observed facts of languages, and obviates the difficulty which cannot but be felt in the theory of a different structure for one of three words so obviously parallel as Sanskrit *vāc-am*, Old Bactrian *vāc-em*, Latin *voc-em*. This Old Bactrian accus. in *-em* of consonantal stems seems to furnish a clear link between Sanskrit *-am* and Latin *-em*, e. g. *barent-em*, ep. with Sanskrit *bhárant-am*, Latin *ferent-em*. Moreover, Latin *-em* regularly answers to Greek *-ā*, as *έπτά septem*, *δέκα decem*, *έννεα novem*: compare *κρίμα crīmen*, etc., also *έκατόν centum*.

To the vowel stems in *-a (-o) -m* was added; *bonum* (*bono-m*), *musa-m*. *-m* as we have seen (chap. iv. p. 73) was weakly sounded in pronunciation, and is accordingly omitted on some old inscriptions.

Accusative Plural:—

Accus. Plur.: General type, *-ns*, i. e. addition of *s* to termination of accus. sing. *m*, which by assimilation to the dental sibilant *s* becomes *n*. This *-ns* is retained only by Gothic, the euphonic laws of which did not forbid such a combination at the end of a word, e. g. *gastins* (stem *gasti-*), *sununs* (*sunu-*): but there are traces of it in both Greek and Latin, and also in Sanskrit and Zend.

In Greek: *Greek Accus. Plur.* : formed by addition of *s* to acc. sing., but *-vs* only retained in the Argive and Cretan dialects, e. g. *τόνς*, *=τούς*, *πρειγευτάνς=πρεσβευτάς*. Elsewhere, in the vowel declension, *v* disappears, the vowel being usually raised in compensation, e. g. *ἴππον-s*, *ἴππονς* (Doric *ἴππως*, like Latin *-ōs*); *χώρανς*, *χώρᾶς*. In Lesbian *-ονς* and *-ανς* became *-οις*, *-αις*: thus *καλαῖς* *=καλάδς*, as in Pindar we have *φιλήσαις=φιλησανς=φιλησαντ-s*, Attic *φιλήσας*. In consonant stems *-s* follows *-a* of acc. sing.

making -as : but in *i-* and *u-* stems there is variety of form ; Accus. Plur. thus beside $\pi\ddot{\alpha}\iota\iota\text{-}as$ and $\pi\ddot{\alpha}\lambda\eta\text{-}as$ we have $\pi\ddot{\alpha}\lambda\iota\bar{s}$ = $\pi\ddot{\alpha}\lambda\iota\nu\text{-}s$. $\pi\ddot{\alpha}\lambda\epsilon\iota s$, the ordinary accusative, is perhaps best taken as = $\pi\ddot{\alpha}\lambda\epsilon y\text{-}as$ (see above on nom. plur., p. 105) : but it might also represent $\pi\ddot{\alpha}\lambda\iota\nu\text{-}s$, and be = $\pi\ddot{\alpha}\lambda\iota s$. With neuters, *a* is added to the stem.

Latin Accus. Plur. of masc. and fem. stems always in -s, In Latin. with long vowel preceding by compensation for the loss of -m- ; thus -as=-am-s, -ōs=-om-s; ēs (īs)=ems (ims), -ūs=-um-s. To neuter stems -a is added, *corpora*=*corpos-a*.

[In Sanskrit, traces of the termination -ns are found : but in vowel-stems usually either n or s disappears and the vowel is raised, e.g. áçva-s (*equus*), acc. plur. áçvān ; áçvā (*equa*), acc. plur. áçvās. So ávī-n (masc.), ávīs (fem.) from stem avi-. To masc. and fem. consonant stems, and monosyllabic vowel stems, -as is added, vāc-as, áçman-as, náv-as (*nau*).]

The *Accusative Dual* in Greek (as also in Sanskrit masc. Accus. Dual. and fem.) is the same as nom. dual. In Latin *duo*, *ambo* have also a form *duos*, *ambos*, on analogy of plural, and in fem. only this form (*duas*, *ambas*).

Vocative Singular :—

This, it has been already said (p. 105), seems to be in Indo-European languages no ‘case,’ but the mere stem used as an interjection.

It has however been suggested, with some probability, that the vocative is originally the nominative with the accent drawn back so that the final syllable became shortened in pronunciation. The evidence for this is (1) the fact that in Sanskrit the vocative is always accented on the *first* syllable, when accented at all, i.e. at the beginning of a sentence ; (2) that in Greek a certain number of words accented oxytone in the nominative throw the accent back as far as it will go in the vocative (e.g. ἀδελφός, πονηρός, πατήρ, but ἄδελφε, πόνηρε, πάτερ). It is also noted that in Greek, if an oxytone noun becomes a proper name, in a majority of cases the accent goes back (e.g. ἀμοργός, "Αμοργός) : and there is a passage in Aulus Gellius on the pronunciation of *Valéri* as gen. or voc. sing. of *Valerius*. As vocative, he says, it was accented *Váleri* ; as genitive, *Valéri*.

In Greek.

In Greek guttural and labial stems, the nom. is used as voc. (except $\gamma\upsilon\nu\alpha\iota=\gamma\upsilon\nu\alpha\kappa-$) : but in dental stems the mere stem is used, subject to euphonic laws, e. g. $\pi\alpha\hat{\imath}$ ($\pi\alpha\delta-$), $\check{\alpha}\nu\alpha$ ($\check{\alpha}\nu\alpha\kappa-$), $\gamma\epsilon\rho\nu$ ($\gamma\epsilon\rho\nu\tau-$). $\pi\alpha\hat{\imath}\varsigma$ however (stem $\pi\alpha\delta-$) and the nom. sing. of participles in -as, -eis, -ovs, -ων (stems in -ντ) are used as vocative. The voc. in -ε of o- stems is the stem with o sunk to ε: θεός however (as *Deus*) is generally used for voc. (though in Matt. xxvii. 46 we have Θεέ μου); so φίλος (Hom. Od. iii. 375) and ὀντος. The voc. termination -οι of πειθώ, αἰδώ-ς, etc., is anomalous; it appears however to stand to nom. sing. in -ω as Sanskrit voc. of fem. ā stems (e. g. aցvē) stands to the nominative: for ē=-ai.

In Latin.

In Latin the nom. sing. is used for vocative, except in masculine stems in o-, where the stem with -o changed to ē is used. In *puer* (for *puer-us*) the abbreviated form of nom. is also voc.: but *puere* is found in Plautus.

The Vocative Dual and Plural in Sanskrit and Greek, and the *Vocative Plural* in Latin are the same as the respective nominatives.

Genitive Singular:—

Gen. Sing. : Indo-European Forms. There appear to have been two forms of Indo-European suffixes for the genitive case, viz. for a- stems (a-, o-), *sya*; for all others, -as or -s. These suffixes are probably pronominal in their origin, and *sya* is perhaps compounded of the two roots *sa*, *ya*: but of this we can have no evidence¹.

Greek Gen. Sing. :—

In Greek.

In consonantal stems -os (= -as) is added to the stem: $\pi\alpha\delta\text{-}\bar{o}s$, $\gamma\epsilon\nu\epsilon\bar{o}s$ (= $\gamma\epsilon\nu\epsilon\bar{o}s=\gamma\epsilon\nu\epsilon\tau\text{-}os$). -os is sometimes raised to -ωs ($\pi\alpha\lambda\epsilon\text{-}\omega s$, $\beta\alpha\sigma\iota\lambda\epsilon\text{-}\omega s$). In diphthongal stems υ has generally passed into η (consonantal) and thus disappeared, $\beta\alpha\eta\text{-}\bar{o}s$ ($\beta\alpha\eta\text{-}\bar{o}s$), $\beta\alpha\sigma\iota\lambda\epsilon\eta\text{-}\omega s$

¹ The old view that -sya of gen. sing. appears also as an adjectival suffix in δημό-σιο-s, so that the Homeric genitive δήμοιο=δημόσιο-, the stem of the adjective, though plausibly supported by the identity in Sanskrit and other languages of genitive termination with adjectival suffixes (cp. Max Müller, Lectures I. iii), cannot, I think, hold against the question, Why then do we never find δημόσιος instead of δημόσιος? If -σιο- = -sya, the s would surely have disappeared between two vowels, as usually in Greek. σιο in δημό-σιο-s is the adjectival suffix τιο, the τ being changed before i to s, according to the universal tendency of pronunciation both in Greek and Latin. See above, p. 78.

(*βασιλευ-*). In *v-* stems forms like *γοννός* (*γονν-*), *δορψός* (*δορν-*) Gen. Sing., Greek. are transpositions from *γονν-ós*, *δορν-ós*: while *γλυκέ-os*, *ἄστεos*, etc., show that the stem vowel *v* has been raised to *eu* (*εF*) and become diphthongal; thus *γλυκέos=γλυκέF-os* is analogous to *βασιλέ-ws=βασιλέF-os*. Similarly *πόλε-ws* and Homeric *πόλη-ós* = *πόλεy-ós*; the stem vowel remaining unaltered in Ionic *πόλι-os*.

Fem. *a-* stems have *-as* or *-s* added to the stem vowel, *σοφίas*, *φυγῆs*. Masc. and neuter stems in *o-* originally formed gen. by addition of *-σyo*, whence the Epic gen. in *-oio*; *ἄγροιo=ἄγρo-σyo* by omission of *σ*¹. The Attic gen. in *-ov* (Aeolic *-ω*) arises by contraction from the intermediate form *-oo=-oσio*, with first *σ* and then *i* omitted; a few examples of which occur in the Homeric poems, e. g. *Αἰόλοο κλυτά* Od. x. 60, *’Ιλιοο Il. xv. 66, xxii. 104, ὅο Il. ii. 325, Od. i. 70, ἀγρίοο Il. xxii. 313.*

From masc. stems in *a-* we find three forms in Homer. (1) *-āo*; (2) *-εω* (*Ἄτρείδεω*), in which the quantity of the two syllables *-āo* is transposed, and *a* weakened to *ε* (*-εω* then becomes one syllable by synizesis and the accent remains unaltered in spite of *ω* in final syllable, as with *πόλεωs*, etc.); (3) *-ω* by contraction from *-ao* (after vowels), *Ἐρμείω, Βορέω* (*Ἐρμείa-s, Βορέa-s*). Aeolic has *-a* (*o* being lost), *Αἴδā, Κρονίδā*. The earliest form in *-ao* is probably *=a-σyo, ayo*; but Curtius, in his work on Greek Etymology, derives *-āo* from *āos=āyas*, the gen. sing. termination of Sanskrit fem. stems in *-ā*, which change the stem vowel *-ā* into *ai* (*ay*) before *-as*, e. g. *āçvā* (*equa*), gen. *āçvāyas*; but *āçva-s* (*equus*), gen. *āçva-sya*. The Attic gen. in *-ov* is a contraction from *-eo*, which is for *-ao*, *πολίτov=πολίτa-o*.

Latin Genitive Singular :—

The suffix *-as* appears in Latin as *-os, -us, -es, -is.*

In Latin :
Consonant
stems.

(1) *-os, senatu-os* in S. C. de Bacch. (Appendix I. ii.).

(2) *-us*, on inscriptions up to the end of the seventh century, A. U. C. (rarely after 100 B. C.), *Cererus, Caesarus, hominus, Venerus*, etc. From this in *u-* stems arose the contraction *ūs=uus* (*domuuus* inser.). It also survives in *alius, illius*, etc.

¹ In the Thessalian dialect, the gen. sing. of *o* stems often ended in *-oi*, about which there are two views: (1) that it = *-oio, minus* the final *o* (Ahrens, ‘De Dialectis Aeolicis,’ p. 221; ‘De Dialecto Dorica,’ p. 528 sqq.); (2) that it is an old locative used in a genitive signification.

(3) *-es*, on inscriptions before the Second Punic War, *Salutes*, *Apolones*: and again in late Latin, *Caesares*, *campestres*, etc.

Gen. Sing.,
Latin.

(4) *-is*, the ordinary gen. sing. of consonant stems proper. The *is* of *i*- stems (*ovis*) was perhaps originally *īs=i-os*: thus *ovis=ovi-os*, as we find a form *alis=alias* (*alius*). The tendency to shorten final syllables, aided by the tendency to see analogy between two similar terminations *ovīs*, *nominīs*, would sufficiently account for the subsequently uniform *-is* of both consonant proper and *i*- stems. *-is* is obviously parallel to Greek *-os*, cp. *genus*, *gener-is* with *γένος*, *γένεσ-ος* (*γένεος*, *γένους*).

u- stems.

The *u*- stems exhibit the greatest variety of gen. sing. inflection: thus we find (1) *-uos* as above; (2) *-uus*, as above (in some cases however *-uus* may be due to a method of denoting the length of a vowel by doubling it, introduced by the tragic poet Accius, and prevalent on inscriptions from about 130-75 B.C.; found also regularly in MSS. of Pliny the elder, where *-uus* represents *-ūs* of gen. sing. nom. and acc. plur. of *u*- stems); (3) *-uis*, retained in *su-is*, *gru-is* (which then, by analogy, are declined like *i*- stems), and used by several writers up to temp. Cicero, e.g. *senatus*, *domus*, etc., quoted by Gellius; *quaestuis* (Ter. Hec. 735), *fructuis*, *victuis*, etc. (Varro); (4) *-i*, perhaps an analogy of *-o* stems (from similarity of nom. sing. *-us*), or possibly from some confusion with the past part. in *-tus*, most of the examples being from words where *t* precedes the stem vowel *u*-, e.g. *adventi*, *quaesti*, *ornati* (all in Terence), *senati*, *fructi*, etc. (see Roby's Latin Grammar, vol. i. § 399); (5) the ordinary termination *-ūs*, by contraction from *-uus* or *-uis*.

Vowel stems. In *o*- stems the gen. ends in *-i* or *-ei* (inscriptions from the time of the Punic Wars to Augustus). Three explanations of Gen. in *-i*. this termination are suggested:—

(1) That it is a *locative*, which has supplanted the old genitive. This would account for, and has probably been suggested by, the apparently abnormal grammatical usages of *Romae*, *Tarenti* in a locative sense; these, however, may be otherwise explained (see below, p. 126).

(2) That like Greek *-ov*, it arises from the termination *-syā*, i.e. *agri=agroi=agro(s)i(o)*. This gives at first sight a plausible

parallel between the Greek and Latin *o-* declensions; but the only real parallel to this supposed Latin abbreviation of *-syo* is the Thessalian gen. in *-ot* mentioned above (p. 112), and Bopp truly points out that '*lupi* and *lupae* from *lupai* rest on the same principle; and if *lupi* proceeds from *λύκοιο*, whence can *lupai* be derived, as the corresponding Greek feminine nowhere exhibits an *-ato* or *-ητο*?' (Comp. Grammar, § 189.)

(3) That the original termination was *o-is* (i. e. *-as* added to the stem), the final *-s* being lost, and *-oi* contracted to *-i*. This explanation is made more probable by traces of a final *-s* in the other Italian dialects: e. g. Osean *suveis* (*sui*), *Pumpaianeis* (*Pompeiani*); Umbrian *puples* (*populi*), *katles* (*catuli*), etc., which lead us to infer an Italic genitive in *-ois*, whence Osean *-eis*, Umbrian *-es*, Latin *-i*. The analogy of fem. *a-* stems will also bear out this conclusion. For them we have in *paterfamilias* and the old genitives *terrās* (Naev.), *viās* (Enn.), etc. distinct evidence of a termination *-ās*, the readiest solution for which is that it is a contraction for *-a-is* (*is=as* added to the stem), a termination found in one old inscription in *Prosepnais=Proserpinae*, and on vulgar inscriptions (not before seventh century A. U. C.) appearing as *-aes* or *-æs* (chiefly in proper names of freedwomen and slaves *Juliae*, *Anniae*, *Vernae*, etc.). The other form in *-āi* (Luer. and Virg.) or *-ae* may then be traced to the same *-ais* by loss of final *-s*, and corresponds exactly to *agri=agroi* from *agro-is*. This explanation, which reconciles the two forms *-as* and *-ai* (*ae*), and harmonises the declension of both masc. and fem. *a-* stems (*o-* and *a-*) appears upon the whole the simplest and most satisfactory.

Of stems in *-e* four forms of gen. sing. are found, viz. *-ēs* Gen. Sing. of (*rabies*, Luer. iv. 1083), *-ei*, *-ē* (*fide*, Hor. Od. iii. 7. 4; *die*, Virg. G. i. 208) and *-i* (e. g. *dii*, a variant for *die*, in Aen. i. 636; see Roby, Latin Grammar, i. § 357). Of these *-ē* and *-i* are contractions of *-ei*: *-ei* and *-es* are phonetic varieties of *-ai* and *-as* of the *a-* stems, and the explanation above given covers them.

Genitive Plural:—

An original Indo-European type *-as-ams*, i. e. *-as* (gen. sing.) Gen. Plur.: Indo-European type.

Gen. Plur. + *-am* (pronominal element found in *bhy-am* etc. see p. 120) + *-s* (plural sign), is imagined by Schleicher and others: which *-asams*, it is supposed, would gradually sink to *-asām*, *-sām*, *-ām*. Of these forms, *-ām*=Greek *-ων*, Latin *-um*; *-sām*=Latin *-rum* of *a-* and *o-* stems; while the quantity of *o* before *-rum* (*equōrum* from stem *equō*), and of Sanskrit *tēshām* (*horum*) from stem *ta* (*hic*) perhaps points to *-asam*, whose initial vowel coalescing with the stem vowel would make a long syllable. [In Sanskrit only the pronominal declension retains this trace of a longer form *-sām* or *-asām*: with nouns, *-ām* is added direct to consonant stems, e.g. *vāc-ām* (*voc-um*), while vowel stems are increased by *n* before the addition of *-ām*, e.g. *āçvā-n-ām* (*āçva-s*), *ávī-n-ām* (*avi-*).]

In Greek:

Greek Genitive Plural, *-ων=ām* is added to the stem. The *o-* of *o-* stems coalesces with it, *λύκων=λυκό-ων*: and the same is apparently the case with *a-* stems, viz. *χωρῶν=χωρά-ων*. The fem. gen. plur., however, is *always* accented with circumflex, the masc. only when the accent of nom. sing. is oxytone: and it has been supposed that this difference points to an original difference in formation, the *ā-* stems having the suffix *-σων (-sām)*; so that *χωρῶν=χωράσων*. This is to some extent borne out by the Homeric form *ā-ων* of such gen. plur., and the comparison of e.g. *τά-ων* gen. plur. fem. with Sanskrit *tā-sām* (*harum*) from stem *ta*. *σ* would of course naturally fall out between two vowels (p. 66). *τά-ων*, *is-ta-rum* and *tā-sām* would thus be parallel forms.

In Latin.

Latin Genitive Plural. Formed by adding *-um* or *-om* (found in *u-* stems, and in *o-* stems after *u* or *v*) to consonantal *o-*, *i-*, or *u-* stems: e.g. *fulmin-um*, *avi-um*, *magistratuom*, *fructuum*; and *-uum* sometimes contracted into *-um*, *passum* (Lucilius, Martial), *currum* (Virg. Aen. vi. 653). Many consonantal stems are increased by *-i* on analogy of the *-i* stems, e.g. *merc-i-um* *penat-i-um* *amant-i-um* (also *amant-um*, which is not a contraction of, but an earlier form than that in *-ium*): but this addition is very rare with stems ending in *-n*, *-r*, *-s* (except *vir-i-um*, *complur-i-um*). Some consonantal stems

follow the analogy of *-u* stems, e. g. *alitu-um* (Lucr. and Virg.) Gen. Plur. Latin.
beside *alit-um*.

o- stems (masc. and neut.) add either *-um* (*-om*) or *-orum* (*-asam*) to the stem. The first is not, as sometimes regarded, a contraction of the longer form: it is in fact probably the older, being the only one known to the Umbrian and Oscan dialects, occurring exclusively on early coins of fifth century A. U. C., and most frequently on inscriptions of an early date (*Romanom*, *sovom*=*suorum*, *divom*, etc.). The other form in *-orum* gradually superseded it, and occurs commonly on inscriptions of the second century B. C. and later: and in and after Cicero's time¹, the form in *-um* was found only in certain words: e. g. *nummum*, *denarium*, etc.; *deum*, *ducentuum* and other numerals, especially distributive; *deum*, *divum*, *virum* and compounds, *Italum*, etc.; *nostrum* and *vestrum* (see below, p. 136). *a-* stems form gen. plur. in *-arum*; but *-um* is formed (1) from masc. patronymics in *-des* (*Aeneadum*, etc.), (2) compounds of *gigno* and *colo* (*terrigenum*, *caelicolum*)—both in daetylic poetry only; (3) from the fem. stems *amphora*, *drachma* (but these are probably borrowed from Greek). *-e* stems have the form in *-rum* (*dierum*, etc.).

The forms *boverum*, *nucerum*, *regerum*, *lapiderum*, noticed by Varro, seem (if genuine) to point to the occurrence of the longer form in consonantal stems with *e* = *i* as a connecting vowel; *i* being suffixed to the stem as with the other form in *-um* where the termination *-ium* is formed from a purely consonantal stem. Another explanation supposes an addition to the stem of *-er*, because in some words an *-r* is found in gen. sing. (*acipenseris*, *cucumeris*, etc.), and is therefore perhaps not peculiar to the plural number in the words in question.

The *Genitive Dual* agrees in form with the *Dative Dual* (p. 123).

Ablative Singular:—

The *Ablative* has been retained as a distinct form in Declension only by Old Persian (Zend) and Latin. Sanskrit preserves Ablat. Sing., in what languages retained.

¹ See Cicero, 'Orator,' xlvi. § 155; and compare Roby's 'Latin Grammar,' § 365 (vol. i. p. 124).

Ablat. Sing. it in mase. and neut. a- stems, Greek in adverbs in -ως, where s = t of Sanskrit ablative; this -t probably representing an original -d retained in Old Latin and in Zend.

Thus ὁμως=ὁμωτ=समात्, abl. of *sama*, ‘similar:’ πᾶς (Ionic κῶς)=I. E. *kvat*, abl. of *kva*. The Sanskrit a- stems (mase. and neutr.) preserve the final -t (*civāt*, आच्वात्): in all others the ablative is identical in form with the genitive in -as; such merging being prevented in the a- stems by the retention of the longer genitive form in -sya.

In Latin.

Latin Ablative Singular:—

Here the original -d (as in Zend d—written t by Schleicher) has been retained; but is only found in Old Latin and Osean, being lost in Classical Latin and Umbrian. Thus we find on inscriptions *senatud*, *praidad*; *gnaivod* (Ep. Seip. Appendix I. i. 1); *sententiad*, *couentionid*, and the adverbs *suprad*, *extrad*, *facilumed* (S. C. de Bacch., Appendix I. ii.). This form *facilumed*, with e. g. Osean *amprufi-d* (=improbe), suggests that the ordinary adverbial termination in -e is an ablative in -ēd, from adjectives in -us, -a, -um, and thus distinguished in form from the masc. and fem. ablatives in -od, -ad (which are also sometimes adverbial, as in *cito(d)*, *supra(d)*, *contra(d)*, etc.). The original quantity of the adverbial ablative in -ē(d) is generally retained, though shortened in some words in constant use, e. g. *benē*, *malē*.

In o-, a-, e-, and u- stems, the long vowel of the ablative -ō, -ā, -ē, -ū seems originally to have been followed by the characteristic -d, which however fell off at an early period. The latest inscription on which it occurs is the S. C. de Bacch. (186 b. c.), a formal legal document with much in its orthography that was archaic at the time; and it is by no means found constantly even in the earliest inscriptions. Thus on that of Scipio Barbatus (see Appendix I. i. 1) we find *gnaivod*, but *patrē*; while on the other Scipionic inscriptions it hardly occurs at all. Ritsehl, indeed, holds that it was in use in the time of Plautus, whom he assumes to have used it or not at pleasure: and accordingly he restores to the text of Plautus forms like *med*, *ted*, *sed (me, te, se)* almost *ad libitum* for metrical convenience.

ence¹. Corssen however maintains that the final *-d* of abl. sing. was no longer heard or spoken, and therefore not likely to have been written, in the time of Plautus and Ennius; admitting at the same time that Plautus *might* have availed himself occasionally *metri gratia* of an archaic form no longer in use, just as Virgil in later times used the archaic genitive *aquai*, or infinitive *farier*².

In consonant and *i*- stems we find both *-ī* and *-ē* as abl. terminations. In classical Latin, most adjectives in *-is* have *-i* (thereby securing a distinction from the neut. sing. in *-ē*); most substantives and participles *-ē*. Some substantives however regularly have *-i* (see above, p. 108, note); in others which usually have *-ē*, *-i* is also found, especially in Lucretius (see Munro on i. 978). In late and vulgar Latin all ablatives in *-i* are weakened to *-ē*. The history of the forms is as follows. The original form was probably *-īd* (I. E. *āt*), seen e. g. in *marid* (Columna Rostrata, b. c. 260), *couentionid* (S. C. de Bacch.), and traceable in *ante-hac* (the non-elision of which is perhaps due to its original form *antid-hac*). This *-īd* became *-ēd'* and then *-ē*, which quantity is found on the Epit. of Scipio Barbatus (Appendix I. i. i.) in a Saturnian verse, *Gnaivod | patrē | progna | tus ||*, and Plaut. Capt. iv. 2, 28 (trochaic), *Tum pistores serofipasci qui alunt furfurē sues*. From 150 b. c. onwards *-ē* becomes most common. *-ei* and *-ī* are also found: e. g. on Ep. Scip. 4 (Appendix I. i.), *virtutei*, ablat., and *-ī* in consonantal stems, *luci* Plant. Aul. iv. 10, 22; Ter. Ad. v. 3, 55; Lucr. iv. 235; Cie. Phil. xii. 25. The tendency of pronunciation to obscure and weaken all final syllables brought all these forms at last down to the weakest form *-ē* (see above, p. 57).

¹ Ritschl, 'Neue Plautin.' Exeurs. i. 106.

² 'Ueber Aussprache,' etc. II. pp. 1005-1008. The objections here urged by Corssen appear almost conclusive against Ritschl's view:—e. g. his citation (1) of many instances from Plautus where the final vowel of abl. sing. coalesces by 'synaloepha' with a following vowel, with no such traces of the influence of a final *-d*, as are found for example in Homer of the lost 'digamma'; and (2) of examples from Ennius of ablat. in *-ē* (*roē videtur, cordē meo*, etc. in hexameters) without a trace of length by position. The shortening of this *-e*, it may further be observed, is itself a subsequent process, presupposing the entire disappearance of *-d* from the original ending *-īd* (see below).

The Ablative Plural agrees in form with the Dative Plural (see p. 129).

Locative Singular:—

The general type is *-i*, for Indo-European noun-stems; but pronominal stems have *-in*, which is the older form. (The locative termination of fem. stems in Sanskrit *-ām* seems to point to the oldest form of the suffix.) The locative is retained as an independent case in Sanskrit, Zend, Slavonic, Lithuanian; in Greek, Latin, Teutonic, and Keltic, it has coalesced with the dative and genitive (its functions being also shared with gen. and abl. in Greek and Latin).

In Greek;

In Greek, the dative singular in *-i* is properly a locative form *ποδ-ί*, *γέροντ-ί*, etc.; and the locative meaning is retained in such forms as *Μαραθῶνι*, *Σαλαμῖνι*, *νυκτὶ*, κ.τ.λ. The dative of *o-* and *a-* stems is a true dative (see below, p. 127): but side by side with it we find locative forms such as *οἴκοι* (*οίκο-* + *i*), *χαμᾶ* (*χαμα* + *i*). This locative *-οι* of *o-* stems becomes in Aeolic *νι-* *πνῦδε*, *μεσνί*; and in Doric *-ει*, e. g. *πεῖ* (*ποῖ*), *τηνεῖ*, *τοῦτεῖ*, *τεῖδε*: this form in *-ει* being also found in Attic *ἀμαχεῖ*, *πανοικεῖ*, *ἐκεῖ* (= *ε-* + *κο-* + *i* from stem *κο-*). *ἄγχι* is perhaps locative (= *ἄγχει*) from a stem *ἄγχο-*, whence *ἄγχοῦ*: and *αιεῖ* might be locative of a stem *aiFo* = Sanskrit *ēva*, Latin *aevō-*: though the Doric form *aiές* points rather to a stem in *-s*, the locative of which is *aiέ(σ)ī*. *μοῖ*, *σοῖ* (Doric *τοῖ*) are probably locatives.

In Latin.

In Latin there are but few traces of a distinct locative case; the locative, both in form and functions, having become merged in either the ablative or dative (? genitive) case. In consonant declension forms like *rurī*, *vesperī*, *herī* (= *hes-i* from *hes*, Greek *χθές*, cp. *hesternus*) may be locatives, but are not distinguishable from dat. or abl. in *i*.

From *o-* stems *humī*, *bellī*, *foci*, *Corinthī*, etc. are perhaps locatives, but are assimilated in form to the dative (as in *illi*, *soli*) or the genitive. *Postri-die*, *quotidie*, etc., and in Old Latin *die quinti*, *die crastini*, seem to point to a locative form merged in the dative: and so *Romae*, *militiae* (*Roma-i*, *militia-i*) are perhaps originally locatives formed by adding *i* to the stem, but are now undistinguishable from the gen. or dat.

Loc. Sing.,
Indo-Euro-
pean type.

Perendie, jam and the pronominal adverbs in *-im* (Appendix Loc. Sing. II, A.) are supposed to indicate the still older locative termination *-in=-am*.

[The locative terminations in Sanskrit are *-i* (consonant and In Sanskrit. diphthong stems), *-āu* (masc. stems in *i-* and *u-*, the stem vowel disappearing), *-ām* (fem. stems in *ā-* *i-* *ū-*), *-ē* (=*a+i* masc. and neut. stems in *a-*), and *-in* (only in pronominal declension).]

Locative Plural:—

From the forms of this case in the Asiatic branch of Indo- Loc. Plur. European languages (Sanskrit *-su*, *-shu*, Zend *shva*, *shū*, *-shu*, *-hva*, *-hū*, *-hu* and Old Persian *-suvā*) an original type *sva-sa* (*sva* pronominal, and *sa* plural sign) is postulated by some philologists (Schleicher, Comp. § 256). However this may be, the Sanskrit *-su* evidently corresponds to the Greek *-σι* or *-σσι* (*σι*) of the dative plural, which is thus, like the dat. sing. in *-ι*, really locative. *-σι* or *-σσι* are sometimes added direct to consonant stems, sometimes by a ‘connecting vowel’ ε: e. g. *ποσσί* (=*ποδ-σι*), but also *πόδ-ε-σσι* (Epic.); *κυσί* and *κύν-ε-σσι* (*κυν-*); *πολι-ε-σσι*, *πόλισι* and *πόλεσι* from *πόλι-*. In *o-* and *a-* stems the forms *ἰπποσι*, *χώρασι* may (as is suggested by some) result from a lengthening of the stem by *ι* (*ἴππο-ι-σι*, *χώρα-ι-σι*): but it is simpler to regard them as formed by the addition of the plural sign *-σι* to the locative sing. (*ἴπποι-σι*, *χώραι-σι*). In a few feminine forms like *θυράσι*, *Ἄθηνησι* the termination *-σι* appears to be added to the stem; unless we may suppose these forms to have been written with an ‘*ι* subscriptum,’ like the Epic forms *-ησι*, *-ης*, which are from lengthening of *a* in *-αῖσι*, *-αῖς*.

In *Latin*, the locative plural is merged in the form of dat. and abl. plur. The dat. abl. in *-is*, however, of *o-* and *a-* stems is very possibly a locative form (see below, p. 129).

No *Locative Dual* is found in Greek or Latin: but Sanskrit has a form ending in *-ōs*.

Dative Singular:—

General type *-ai*, Sanskrit *-ē*, Greek *-φ* (=*o- οι*), *ᾳ* (=*a+αι*), Dat. Sing., Latin *-i*. Different views are held as to the origin of this termination, viz. :—

Dat. Sing.,
General
type.

- (1) That it is a strengthening of the locative *-i*.
- (2) That it represents the preposition *abhi*, *bh* being lost, as in Sanskrit *çivais*, instrumental plur. of *çiva*, and as ϕ is lost in Doric *ɛμίν* and Epie *τεύν* (=ma-bhyam, tu-bhyam). These pronominal datives (cp. Latin *tibi*, *sibi*, etc.) give *bh* : and as pronouns generally preserve more archaic forms than nouns, they perhaps point to the original form of the dative. The use of the preposition *abhi*, 'towards,' to form the dative would be analogous to the Latin idiom of *ad carnificem dabo*, etc. found in Plautus, and to the use in modern languages of the prepositions *to*, *ð*, *zu*, etc. to express the dative.

In Greek;

In Greek *a-* stems, (*a-*, *η-*, *o-*) alone have the true dative termination, *οἴκῳ=οἴκο-* + *οι*, *θεῷ=θεα-* + *αι*: in all others the locative in *ι* is used. Infinitives in *-μεναι*, *-εναι*, *-ναι*, *-αι* are probably datives of consonantal stems (see below, chap. viii).

In Latin.

In Latin, the dative in *-i* of consonantal and *i-* and *u-* stems perhaps represents Indo-European *-ai*. Inscriptions of fifth century A. U. C. give *-ē*, which is analogous to Sanskrit *-ê=-ai*: e. g. *Junone*, *matre*, *salute*, *Diove (Jovi)*: and this form appears to have been retained in some technical phrases, e. g. *solvendo aere alieno*, *jure dicundo* in Livy and Suetonius. Umbrian has *-e*: *patre=Sanskrit pitrē (patri)*. Later inscriptions (sixth century A. U. C. to time of Augustus) give *-ei*: e. g. *quoiei* (Ep. Scip. 4, Appendix I. i.), *Apolenei*, *Diovei*, *Hercolei*, etc. Oscan has *-ei*; *paterei*, *Diuvei*, etc. Finally *-ei* became *-i*, which does not appear on inscriptions before the date of the Gracehi. Corssen considers *-ei* to be the original dative suffix and *-i* the locative: Schleicher (Comp. § 254) regards *-i*, *-e*, *-ei* as varieties of the same form, but locative. It would seem perhaps more reasonable to regard the three forms as identical: and the history of Latin orthography will supply many analogies to this variety of spelling (e. g. *ni*, *ne*, *nei*: cp. Ritschl's view of the relations of *ē*, *ei*, and *i* quoted in Roby's Latin Grammar, vol. i. § 268).

In *a-*, *e-*, *o-* stems the oldest forms appear to be *-ai*, *-ei*, *-oi*, (*quoi*, *populoi*, traceable in *huie=hoic*). With such stems the first letter of the termination *-ai* united itself to the stem vowel, and the results *-oi*, *-ai*, *-ei* seem to have been sometimes pro-

nounced as dissyllable; as is still the case with -e stems, where Dat. Sing. Latin. the full form is retained¹.

In o- stems the final -t was dropped (*populo*=*populō-i*=*populō-oi*): just as in Greek (*ἱππω*=*ἱππω-ι*=*ἱππο-οι*, etc.), where however the traces of i remain in ‘i subscriptum.’ In a- stems i survives in Classical Latin -ae=ai: but dative forms like *Matuta*, *Tusco-lana*, etc. are parallel to Greek *θεᾶ*=*θεαῖ*=*θεα-αῖ* and Latin *populo*, in the loss of -i. In e- stems also a similar form in -ē is found: e.g. *diē*, Plaut. Capt. iv. 2, 20; *fideē*, Aul. iv. 6, 1, Trin. i. 2, 80; *faciē*, Lucilius, etc.: and a monosyllabic pronunciation *metri gratia* of -ei gives the intermediate stage. Compare the remark of Aulus Gellius (ix. 14), ‘In casu dandi qui purissime locuti sunt non “faciei” uti nunc dicitur sed “facie” dixerunt.’

Dative Plural:—

General type *bhyams*, i.e. *bhyam* of dat. sing. (as seen in Sanskrit pronominal declension, p. 143) + plural sign -s. The Old Prussian -mans of dat. plur. is the natural representative, by the laws of phonetic change, of Indo-European *bhyams*, and therefore confirms the inference that this is the primitive form. -mus in Lithuanian (*mumus*, *jumus*=*nobis*, *vobis*) points to the same form: for if the original had been Sanskrit *bhyas*, Lith. would have -mas; but u is accounted for by the nasal m.

This case form appears in all Indo-European languages except Greek, which employs locative plur., as in sing. (see p. 126). In Sanskrit -*bhyams* becomes -*bhyas* (cp. acc. plur. -as=am-s, p. 116).

In Latin, -*bhyas* becomes -*bios* or -*bius*, then -*bos*, -*bus* (for loss of i cp. *min-us*=*minius* and see also on p. 59): and a parallel form appears in *no-bis*, earlier *nobeis*. This -*bus* is the regular termination for consonant, i-, and u- stems, and is also found in *ambo-bus*, *duo-bus* (o- stems); *deabus*, *filiabus*, *libertas-bus* on inscriptions, and *amba-bus*, *duabus*, classical (a- stems); *diebus*, *rebus*, classical (e- stems). -i is usually added before it

¹ The dative termination -ei of the ordinary fifth declension seems to have been variously scanned as ē-i, ēī, and īī; see for examples Roby, ‘Latin Grammar,’ § 306 (i. p. 122).

Dat. Plur. to consonant stems (*nomin-i-bus*, etc.) ; but in *bɔ̄-bus*, *bu-bus*=*bov-bus* we have possibly the remnant of an earlier formation by adding *-bus* direct to the stem. In *i-* stems *i* is found as *e* in Old Latin, e. g. *tempestatebus*, *narebos*: and in *u-* stems, *u* sometimes becomes *i*, as *fructibus*.

Dat. in *-is*. The dat. (also abl.) plur. of *o-* and *a-* stems (with the exceptions above given) ends always in *-is*, of which form there are two explanations :—(1) that it is dative, arising from *-fios*=*-bhyas*, which then becomes *-hios* (cp. *mi-hei* beside *ti-bei*) and then by contraction *-is* (see Schleicher, Comp. § 261, and on *f=bh* above, p. 69). This however is very hypothetical; and it seems simpler to believe (2) that *-is* is a locative termination; so that *musis*, *dominis*=*musais*, *dominois*=*musisi*, *dominoisi*, and correspond exactly to Greek *χώραισι*, *ἀγροῖσι* (see above, p. 127). That *-ois*, *-ais* were the original terminations of the dat. plur. is shown by the old forms *oloes* (*illis*), *privicoles* (*priviculis*) noticed by Festus, and by the other Italian dialects. Thus an old inscription (possibly of Latin origin ?) gives *suois*, *cnatois* (*suis*, *gnatis*). Oscan has *Neulanuis*, *legatus*, *diumpais* (*Nolanis*, *legatis*, *lamphis*); and in Umbrian the dat. plur. of *o-* and *a-* stems ends in *-eis*, *-es*, *-is* (later *-eir-*, *er-*, *ir*), and of *i-* stems in *-eis*, *-es* (perhaps on analogy of *a-* and *o-* stems¹).

Dative Dual :—

Indo-European *-bhyāms*, lengthened from *-bhyāms*. Sanskrit here drops the *-s*, and has *-bhyam*.

In Greek *-bhyāms* became something like *-φιων*, which became *-φιν* and finally *-ν*, as in *o-* stems *ἴππο-ν*=*ἴππο-φιν*, *χώρα-ν*=*χώρα-φιν*. All other stems follow the analogy of *o-* stems, and thus *-ο-φιν*, *-οιν* is the usual termination throughout, e. g. *γενέοιν*=*γενέσ-ο-φιν*, *πατέροιν*=*πατέρ-ο-φιν*, *εὐρέ-οιν*=*εὐρέ-φ-ο-φιν* (stem *εὐρυ-* with stem vowel raised). The Homeric forms *τοῦν*, *βλεφάροῦν*, etc. (from stems *το-* *βλεφαρο-*) appear to have an *ι* added to the stem; so that *τοῦν*=*το-ι-φιν*. The same form is found in some consonantal stems, e. g. *ποδοῦν*=*ποδ-ο-ι-φιν*,

¹ See Ferrar's 'Comparative Grammar,' p. 269.

$\Sigma\epsilonιρήνοιν = \Sigma\epsilonιρην-o-i-\phi\nu$, where o-, and afterwards i-, have been added to the original stem, each under the influence of analogy.

There is no trace of -*bhymâs* in Latin or any Italian dialect.

Instrumental Singular:—

Instrumental Sing.
Indo-European type.

There appear to have been two Indo-European forms, (1) -*â*, (2) -*bhi*: and it is suggested (Schleicher, Comp. § 258) that these originally corresponded to the twofold meaning of (a) *comitative* ('I went with him'), (b) '*instrumental*' proper ('I cut it with a knife'), which are united in the Latin ablative case, and in our preposition 'with.'

(1) -*â* is found in Sanskrit (*vāc-ā*): and in Greek possibly in the adverbial forms *άμα* (Doric *άμâ*), *δίχα* (*διχâ*), *τάχα*, *φή* (Il. i. 144, xiv. 499), *ἀλλαχῆ*, *πάντη* (Dorie *παντâ*), *δή*=*dya*=*yâ* from pronominal stem *ya*, whence the locat. *jam* (see for 'parasitie *d*', p. 80).

(2) -*bhi*, which does not appear in Sanskrit, is in Greek -*φι*, a termination common in Homer, and not to be confused with the supposed earlier form of the dative dual -*ων* mentioned above. It is used as (a) *comitative* (*ἄμ' ἡσι φαινομένηφιν*), (b) *instrumental proper* (*γῆφι βῆηφι*, Od. xxi. 315, ep. Il. xvi. 734); but also in a locative or ablative signification, by the easy transition from the notion of 'circumstances under which' or 'by which' to 'place at which' or 'from at which': e. g. *ἐπ'* *ἐσχαράφιν*; or with *ἀπό*, *ἐξ*, *ἐκ ποντόφιν*, 'from on the sea' (whence -*φιν* has sometimes been wrongly interpreted as a *genitive* termination).

Latin offers no trace of either -*â* or -*bhi*.

Instrumental Plural:—

Indo-European -*bhis*, i.e. *bhi+s*, of plural. Sanskrit has -*bhis* except in *a-* stems, where *bh* disappears (*açvâis*): the Vedas however show *āçve-bhis*.

In Greek the final *s* is lost after *ν* (see p. 68) and the form is therefore identical with the singular -*φιν*, e.g. *ναῦφιν*, Il. ii. 794; *κοτυληδονόφιν*, Od. v. 433, *θεόφιν*, etc.

Comparison of Adjectives:—

The declension of adjectives has been sufficiently explained Comparison of Adjectives.

Comparison
of Adjec-
tives.

under that of substantives : and there only remains the question of the formation of 'degrees of comparison.' This is really part of the composition of words, i. e. the formation of stems from roots : for comparative and superlative are formed by addition to stem of positive of particular suffixes, in no way different from other suffixes, and not confined to adjectives. But the wide and general use of particular suffixes for this purpose, and the order usually observed in grammars, make it convenient to consider them at this stage.

Comparative degree. The supposed type of this stem in Indo-European is formed by a suffix *-yans* (= *yan-ta*) or *-tara*. These may be derived either from (1) *verbal*, or (2) pronominal roots. Those who derive from verbal roots connect *-yan* with Indo-European *yā*, 'to go,' whence Sanskrit *yā*, Greek *λέγει*; *-tara* with Indo-European *tar*, 'to cross over,' whence Latin *trans*, English *through*: both roots thus signifying *progression*, and heightening the idea of the positive.

But it seems better, without trying to attach so definite a meaning to the suffixes in question, to regard them as derived from pronominal roots and akin to certain other pronominal suffixes traceable in Indo-European languages. Thus *-yans* may be connected with the common suffixes *-ant* (part. aet. in Sanskrit, Greek, Latin); *-vant* ('provided with anything,' Greek *Feντ* in *ἰχθύο-Fεντ*, *χαρίεντ-*, etc., *-εις*, *-εσσα*, *-εν*); and *-mant* (*mana-*, *man-*) in *τλή-μων*, *ποί-μην*, *ani-mo*, *al-mo*, *certa-men*, *car-men* : partic. *-μενο-*, plur. 2 per. *-mini*, etc.

-tara=*-ta-ra*, the latter of which elements sometimes expresses the idea of comparative as in Latin *sup-er-us*, etc.

Compar.
suffix *yans*.

(1) *-yan* (*-yans*) or *-ians*.

Sanskrit *i-yas* (base of comparative).

nom. sing. *iyan(s)* mase., *iyas* neut.

acc. *iyan-sam*.

instr. *iyan-ā*.

Greek *-ιον* (*-ιων* nom. = *ιων-s*, *s* being lost and the vowel lengthened), before which final *-o*, *-u*, *-po*, of stem are dropped : e. g. *φιλ-ιον* (*φιλο-*), *ηδ-ιον* (*ηδυ-*). *θάσσον*=*τάχ-ιον* (*ταχο-*), *μᾶσ-*

$\sigma\sigma\nu=\mu\acute{\alpha}k\text{-}\iota\sigma\nu$ ($\mu\acute{\alpha}k\rho\text{o-}$), $a\ddot{\iota}\sigma\chi\text{-}\iota\sigma\nu$ ($a\dot{\iota}\sigma\chi\text{-}\rho\text{o}$), $\mu\acute{e}\iota\zeta\sigma\nu=\mu\acute{e}\gamma\iota\sigma\nu$ ($\mu\acute{e}\gamma\text{y}\text{as}$). Comparison of Adjectives.
root $\mu\acute{e}\gamma\text{-}$ ¹.

Latin $-i\bar{o}s$, $\left\{ \begin{array}{l} -i\sigma r, -or, \\ -i\bar{u}s, -us. \end{array} \right.$

$-i\bar{o}s$ is the oldest form, n being lost as in accus. plur., but retained in adverbial $-iens$. In adding $-ios$ to vowel stems, the stem vowel is omitted; *prob-iōr* (*prob-o-*), *sapient-iōr*.

In Classical Latin $-i\bar{o}s$ split into $-i\sigma r$, $-ios$; and the two forms then served to mark distinction of gender (*melior*, *melius*). The distinction between them was not originally very marked; and remains of Old Latin give e. g. *melios*, masc., and *prior*, *posterior*, neut.².

$-i\bar{o}r=-i\bar{o}s$. \bar{o} long in Old Latin (as in oblique cases), so Plaut. *Amphit.* i. 3, 50:—

‘Atque quanto nōx lóngiōr haec próxuma.’

Capt. iv. 2, 2 (*auctiōr*), and in neut. *ūs*, Menaechmi, ii. 2, 52:—

‘Proin tú ne quo abeas lóngiūs ab aedibus.’

(2) $-tara$, Sanskrit *tara*, Greek $-\tau\epsilon\rho\text{o-}s$.

Compar. suffix *-tara*.

In Latin it appears in e. g. *pos-teri*, *ce-teri*, *al-ter*, *neu-ter*, *u-ter*, *dex-ter*, *citra*, *ultra*, *frustra*; and possibly adverbs in *-ter* and *igi-tur*, etc. (see however Appendix II, A.).

In pure comparatives, only in composition with the other form $-i\bar{o}s$, e.g. *ci-ter-iōr*, *de-ter-iōr*, etc., or *sin-is-tero*, *min-is-tero-*, etc. (cp. Greek *λαλ-ιστερο-*).

[*mag-ister*, *min-ister*=the *greater*, the *less* person, cp. English ‘mayor,’ ‘major,’ ‘minor.’]

Comparison of Adjectives.—Superlative.

The elements of superlative formation of Indo-European languages are *-ta* and *-ma*, either separately or combined, or either of them doubled, or in combination with the comparative stem; as under the following heads:—

¹ On the production of these forms by assimilation, see above, pp. 75, 6; and compare Schleicher, ‘Comp.’ § 148 d, e (pp. 224–226), and Peile, p. 228.

² Priscian quotes ‘senatus consultum *prior*’, ‘bellum Punicum *posterior*’, and says, ‘Vetustissimi etiam neutrum in *-or* finiebant, et erat eadem terminatio communis trium generum.’ In the appropriation of *-iōr* to the masculine gender we perhaps see the result of analogy with substantives in *-or*, *honor*, *labor*, etc., which are usually masculine.

Superlative
suffixes.

1. *-ta*; in numerals *πρῶτος*, *ἔκτος*, *sextō-*.
2. *-ma*; *πρόμος*, *primo-*, *summo-*, etc.
3. *ta-ta*; the ordinary Greek superlative in *-τατος*.
4. *ta-ma*; in Latin *optumo-*, *dextumo-* (or without the superlative idea, *finitimo-*, *maritimo-*). With these Corssen classes the superlatives *facillimus*, *acerrimus*, *veterrimus*, which forms he holds = *facil-timo-*, *acer-timo-*, *veter-timo-*; *-timo* after *l*, *r* becoming first *-simo-*, and then by assimilation (p. 74) *-limo-*, *-rimo-*. Thus *proximus* = *propic-tumus* (from an adjectival stem *propico-*); thence *propicsumus* and by contraction *proximus*. *Maximus* = *mag-tumus*, *mag-sumus*. Another explanation however (see Roby's 'Latin Grammar,' Preface, p. lxi) makes these forms = *-ios* or *-is* of comp. + *-i* + *-mus* (*-ma*); e.g. *facillimus* = *facil-is-i-mus* under strong contraction. The difficulty here is in the insertion of *i* between *is* and *mus*. Both theories are possible: Corssen's however follows a wider analogy, and (except in one or two cases) rests upon an easier contraction (see below, number 8, on *-issimus*).
5. *ma-ta*; Greek *πύματος*, *έβδόματος*.
6. *yans-ta*; Greek superlative in *ιστο-*, *μέγιστος*, etc.
7. *yans-ma* = *ios-mo* = *is-mo* = *i-mo* in *minimo-*, *plurimo-*, etc. where *i* is all that remains of the comparative suffix.
8. *yans-ta-ma* = *is-tumo*, found in two words, *sollistumum* (*tripudium*), Cic. de Div. ii. 34. 72, explained as 'perfect' from *sollus* = *totus*; and *sinistumus*, superlative of *sinister*, as *dextimus* of *dexter*. On the analogy of these two forms, Corssen explains the regular Latin superlative in *-issimus* = *-is-tumus* = *-ios-tumus* (see above, number 4, on *facillimus*, etc.). Here again another explanation is offered, that *-issimo* = *-is-imō*¹, the double *s* being due partly to the desire to indicate the length of the preceding syllable, partly to an attempt to preserve the sound of *s* sharp. It seems doubtful, however, whether *s* is ever 'sharpened' to *ss* for merely phonetic reasons, except where a syllable is lost before it (as in *locassim*, etc.); and of this moreover there is no example in noun-forms.
9. *tara-ma*, in *extremo-*, *postremo-*.

¹ See Roby's 'Latin Grammar,' vol. i. Preface, p. lxi.

Paradigms of Noun Inflection in Sanskrit, Greek, and Latin. Paradigms of Noun Inflection;
(From Bopp, Schleicher, and Ferrar.)

I (a). Consonant Stems:—

Consonant Stems.

	Sanskrit.	Greek.	Latin.
(1) Stem	vāc-	ōπ-	vōc-
Singular:—			(fem.)
Nom.	vāk	ōπ-s	vōc-s (vox)
Accus.	vāc-am	ōπ-a	vōc-em
Gen.	vāc-ás	ōπ-ós	vōc-is
Abl.			voc-ē(d)
Loc.	vāc-í	ōπ-í (dat.)	
Dat.	vāc-e (= ai)		voc-i
Instr.	vāc-ā		
Voc.	vak		
Dual:—			
Nom. Acc.	vāc-ā, -āu	ōπ-ε	
Gen. Loc.	vāc-ós		
Dat. Abl. Instr. }	*vāg-bhyām	ōπ-o-īν	
Plural:—			
Nom.	vāc-as	ōπ-εs	vōc-ēs (voci-es)
Acc.	vāc-as	ōπ-as	vōc-ēs
Gen.	vāc-ām	ōπ-āν	vōc-um
Loc.	vak-shú	ōπ-σí (dat.)	
Dat. Abl. Instr.	*vāg-bhyás		voc-i-bus
	*vāg-bhīs	(-īν)	

* c of stem assimilated to the media bh (see p. 77). This c is the palatal modification of guttural k, which appears only in nom. vak.

Inflection of
Consonant
Stems.

	Sanskrit.	Greek.	Latin.
(2) Stem	bharant (masc. n.)	*φέρωντ- (m. n.)	ferent (m. f. n.), ferent-i
Singular :—			
Nom.	bháran, bhárat (n.)	φέρων (-οντ-s)	feren(t)-s
Accus.	bhárant-am, bhárat (n.)	φέρωντ-a	ferent-em
Gen.	bhárat-as	φέρωντ-os	ferent-is
Abl.			ferent-ē(d)
Loc.	bhárat-i	φέρωντ-i	
Dat.	bhárat-ē		ferent-i
Instr.	bhárat-ā		
Voc.	bháran, bharat (n.)		
Dual :—			
Nom. Acc.	bhárant-â,-âu (m.) bharant-i (n.)	φέρωντ-e	
Gen. Loc.	bhárat-os		
Dat. Abl. Instr. }	*bhárad-bhyām	φερόντ-o-iν	
Plural :—			
Nom.	bharant-as, bhárant-i (n.)	φέρωντ-es -a	ferent-es (-ies)
Acc.	bhárat-as (m.), bhárant-i (n.)	φέρωντ-as -a	ferent-es
Gen.	bhárat-ām	φερόντων	ferent-ium (-um)
Loc.	bhárat-su	φέρωντ-σι (-ουσι)	
Dat. Abl.	*bhárad-bhyas		ferenti-bus
Instr.	*bhárad-bhis	(-phiν)	.
(3) Stem	mánas- (n.) dur-manas (m. f.)	μένος, μένες (n.) δυσ-μενές (m. f.)	genus, genes (n.) vetus, vetes (m. f.) (s becomes r)
Singular :—			
Nom.	mánas	μένος	genus, arbōs (f.)
	dur-mánas (m. f.)	δυσμενής	vetus
Acc.	mánas	μένος	genus
	durmanas-am (m. f.)	δυσμενέσ-a, -έα, -η	veter-em (m. f.)

Greek forms a feminine by addition of suffix *ya* to this stem, φέρωντ-γα, φέρουσα, which is declined as a fem. *a*-stem. The same formation exists in Latin as a fem. noun: *patien(t)s*, *patient-ia*.

* Assimilation of *t* to *bl*.

	Sanskrit.	Greek.	Latin.
Gen.	máñas-as	$\mu\epsilon\nu\epsilon\sigma\text{-}os$, -eos, -ous	gener-is
Abl.			gener-ē(d)
Loc.	máñas-i	$\mu\epsilon\nu\epsilon\sigma\text{-}i$, $\mu\epsilon\nu\epsilon i$	(ruri?)
Dat.	máñas-ē (=ai)		gener-i
Instr.	máñas-ā	($\ddot{o}\chi\epsilon\sigma\text{-}\phi i$ = bhi)	
Voc.	máñas	$\mu\epsilon\nu\epsilon os$ $\delta u\sigma\mu\nu\epsilon\acute{e}s$ (m. f.)	genus
Dual :—			
Nom. Acc.	máñas-ī (n.)	($\mu\epsilon\nu\epsilon\sigma\text{-}\epsilon$) $\mu\epsilon\nu\eta$	
	durmanas-ā. -āu	$\delta u\sigma\mu\nu\epsilon\acute{e}\sigma\text{-}\epsilon$,	
	(m. f.)	$\delta u\sigma\mu\nu\hat{\eta}$	
Gen. Loc.	mána-ōs		
Dat. Abl. } Instr.	mánō-bhyām	$\mu\epsilon\nu\epsilon\sigma o\text{-}\nu$, -epiu, -oūv	
Plural :—			
Nom.	mánāms-ī (n.)	$\mu\epsilon\nu\epsilon\sigma\text{-}\alpha$, -ea, -η	gener-a (n.)
	durmanas-as	$\delta u\sigma\mu\nu\epsilon\acute{e}\sigma\text{-}\epsilon s$ (m. f.)	veter-ēs
	(m. f.)	-ees, -eis	(m. f.)
Acc.	mánāms-ī	$\mu\epsilon\nu\epsilon\sigma\text{-}\alpha$, $\mu\epsilon\nu\eta$	gener-a (n.)
	dur-manas-as	$\delta u\sigma\mu\nu\epsilon\acute{e}\sigma\text{-}\alpha s$ (m. f.)	veter-es (m. f.)
	(m. f.)	-eas, -eis	
Gen.	máñas-ām	$\mu\epsilon\nu\epsilon\sigma\text{-}\omega v$, -ēwv, -āv	gener-um
Loc.	máñas-su	$\mu\epsilon\nu\epsilon\sigma\text{-}\sigma i$, $\mu\epsilon\nu\epsilon\sigma i$	
Dat. Abl.	mánō-bhyas		gener-ibus
Instr.	mánō-bhis	($\mu\epsilon\nu\epsilon\sigma\text{-}\phi i$)	

N. B.—Mase. and fem. forms are only given where they differ from those of the neuter stem.

I (b). Stems in *i*- :—

	Sanskrit.	Greek.	Latin.
Stem	ávi- (m. f.) vári (n.)	πολι- (fem.) ἰδρι- (adj.)	<i>ori</i> <i>mari-</i> (n.)
Singular :—			
Nom.	ávi-s vári (n.)	πόλι-ς ἰδρι (n.)	ovi-s mare (n.)
Accus.	ávi-m vári	πόλι-ν ἰδρι	ove-m mare
Gen.	ávēs vári-η-as ávy-âs (f.)	πόλι-ος, πόλε-ως πόλη-ος = πόλεγ-ος (-ως, adv.)	ovis
Abl.			
Loc.	ávāu vári-η-i ávyām (f.)	πόλε-ῖ, πόλει πόλη-ῖ	ovē(d) mari-(d)
Dat.	ávay-ē vári-η-ē ávy-āi (f.)		ovi
Instr.	ávi-n-ā vári-η-ā ávy-ā (f.)		
Dual :—			
Nom. Acc.	ávi vári-η-i	πόλι-ε, πόλεε	
Gen. Loc.	ávy-ōs vári-η-ōs		
Dat. Abl. Instr. {	ávi-bhyām	(πολί-ο-ιν) πολεοῖν	
Plural :—			
Nom.	ávay-as vári-η-i	πόλη-ες = πόλεγ-ες πόλι-ες, πόλεις ἰδρι-α (n.)	ovēs mari-a (ovi-es)
Acc.	ávi-n (m.) vári-η-i ávi-s (f.)	πόλη-ας ἰδρι-α πόλεις	ovēs mari-a
Gen.	ávi-n-ām	πολί-ων, πόλεων	ovi-um
Loc.	ávi-shu	πόλισι, πολέ-σι πολί-ε-σσι	
Dat. Abl.	ávi-bhyas		
Instr.	ávi-bhis		ovi-bus

N.B.—Neuter forms are only given where they differ from those of m.a.c. and fem. stems.

I (c). Diphthongal Stems :—

	Sanskrit.	Greek.	Latin ¹ .
Stem	1. nāu- 2. gau-	1. ναῦ- 2. βοῦ-	1. (navi-) 2. bou- (bov-i)
Singular :—			
Nom.	nāu-s	ναῦ-s	navi-s
Acc.	nāv-am	νῆF-a	nav-em
Gen.	nāv-ás	νηF-ós νε-úS	navi-s
Abl.	nāv-ás	gos	navē(d) bovē(d)
Loc.	nāv-í	gáv-i	
Dat.	nāv-é	gáv-ē	nav-i
Instr.	nāv-ā	gáv-ā	bov-i
Voc.	(as nom.)	ναῦ	(as nom.)
Dual :—			
Nom. Acc.	nāv-ā, -āu	gáv-ā, -āu	νῆF-ε
Gen. Loc.	nāv-ós	gáv-ós	βóF-ε
Dat. Abl. } Instr. }	nāu-bhyám	go-bhyám	νηFo-ῶv νε-oῶv
Plural :—			
Nom.	nāv-as	gáv-as	νῆF-εs
Acc.	nāv-as	gáv-as	βóF-as
		gás	βoû-s
Gen.	nāv-ám	gáv-ām	νῆF-ῶv νε-ῶv
Loc.	nāu-shú	gó-shu	νηv-σí ναῦ-σí
			βoû-σí
Dat. Abl.	nāu-bhyás	gó-bhyas	νῆFε-σσι βóFε-σσι
Instr.	nāu-bhís	gó-bhis	ναῦ-φιv

¹ The disappearance of diphthongs in Latin (see p. 56) leaves but little trace of diphthongal stems. *navis* is throughout an *i*-stem; but the declension of *bos* retains traces of a stem *bou-* or *bov-* corresponding to Greek *βοῦ-*, *βοF-*.

II (a). Vowel Stems (masc. and neut.) :—

	Sanskrit.	Greek.	Latin.
Stem	áçva- (m.) yugá (n.)	ἵππο- (m.) ξυγό- (n.)	equo- (m.) jugo- (n.)
Singular :—			
Nom.	áçva-s yugá-m	ἵππο-s ξυγό-ν	equo-s (equus) jugu-m (-om)
Acc.	áçva-m yugá-m	ἵππο-ν ξυγό-ν	equo-m jugu-m
Gen.	áçva-syā	ἵππο-(σ)ιο	equo-is
Abl.	áçvā-t	ἵππο-o, ἵππου	equo-i, equī equō(d)
Loc.	áçvē (áçva-i)	(οἴκο-ι, οἴκοι)	(domi = domo-i ?, equō = equō-oi
Dat.	áçvā-y-a	ἵππο-οι, ἵππω	equō
Instr.	áçvēn-a (Vedic áçvā)	ποντό-φι	
Voc.	áçva	ἵππε (= ἵππο-) ξυγό-ν	eque (equo) jugu-m
Dual :—			
Nom. Acc.	áçvā, áçvāu	ἵππο-ε, ἵππω	
Gen. Loc.	áçva-y-ōs		
Dat. Abl. } Instr. }	áçva-bhyām	ἵππο-ιν	
Plural :—			
Nom.	áçvā-s (Vedic áçvā-sas) yugán-i (n.) (Vedic yugā)	ἵππο-i ξυγά (n.)	(equo-es, equeis) equī jug-a (m.)
Acc.	áçvān (= áçvān-s) yugán-i	ἵππονς = ἵππον-ς ξυγά	equōs = equon-s juga
Gen.	áçvā-n-ām	ἵππο-ων, ἵππων	equō-rum equūm = equo-ōm
Loc.	áçvē-shu	ἵπποι-σι, ἵπποι-s	(equo-is) equis
Dat. Abl.	áçvē-bhyas		
Instr.	áçva-is (Vedic áçve-bhis)	(θεό-φιν)	

II (b). Vowel Stems (feminine *ā-*).

	Sanskrit.	Greek.	Latin.
Stem	āçvā	χάρπα-	equa-
Singular :—			
Nom.	āçvā	χάρπα	equa
Accus.	āçvā-m	χάρπα-ν	equa-m
Gen.	āçvā-y-as	χάρπα-s	(equa-is, equas) equai, equae
Abl.			equā(d)
Loc.	āçvā-y-ām	χαμα-ί	(Rome= Roma-i?)
Dat.	āçvā-y-ai		equāi = equa-ai
	Ved. āçvā-i (a-ai)	χάρπα (χάρπα-ai)	equae
Instr.	āçvā-y-ā		
	Ved. āçvā	βίη-φι	
Dual :—			
Nom. Acc.	āçvē	χάρπā	
Gen. Loc.	āçvā-y-ōs		
Dat. Abl. Instr. }	āçvā-bhyām	χαρπα-νν	
Plural :—			
Nom.	āçvā-s (Ved. āçvā-sas)	χάρπαι	(equa-es, equas; equais, equai) equae
Acc.	āçvā-s	χάρπας (-αν-ς)	equas (-am-s)
Gen.	āçvā-n-ām Ved. āçvām	χωρπῶν (α-ων)	equa-rum
Loc.	āçvā-su	χάρπαι-σι, χάρπαι-	(equa-is) equis
Dat. Abl.	āçvā-bhyas	s	equa-bus
Instr.	āçvā-bhis	(-φιν)	

CHAPTER VII.

INFLECTION OF PRONOUNS.

THE Pronouns exhibit certain irregularities of inflection, which make it necessary to consider them separately from nouns. In many cases they have undergone such changes that the forms admit of only conjectural explanation : and the variety of pronominal roots employed makes it difficult, if not impossible, to reduce them to any uniform scheme. The Pronouns of the 1st and 2nd person, and the reflexive pronoun (Indo-European *ma-*, *tva-*, *sva-*) have no distinction of gender : a fact which is accounted for by their antiquity, if (as appears likely) they are the oldest extant elements in language, developed previously to the introduction of distinction of gender. The presence or absence of this distinction divides the pronouns roughly into two main heads, viz. (1) Pronouns without Gender (as above), and (2) Pronouns with Gender.

Pronouns
without
Gender.

(1) Pronouns without Gender (1st and 2nd Personal, and Reflexive).

The originals of these three pronouns, *ma*, *tva*, *sva*, are traceable in the oblique cases, and in Verb Inflections of person (-*mi*, -*si*, -*ti*, see below, ch. viii); but all speculation as to the derivation of meaning of these elements is fruitless. The declension of these three pronouns has many points of similarity, and they might without difficulty be considered together: but it seems best upon the whole to take them separately.

1st Personal Pronoun (ma).

Nom. Sing. Here we are met at once by a different form ; viz. Sanskrit *ahám*, Greek $\epsilon\gamma\omega\nu$ (Doric), $\xi\gamma\omega\nu\gamma\alpha$, $\dot{\epsilon}\gamma\acute{\omega}$ (Attic), *iών*,

iώνγα, iώγα, iώνει (Bocotian), *ἐγώνη* (Laconian and Tarentine); ^{1st Personal} *Pronoun.* Latin *egō*, later *ego*¹. **Ahám** and *ἐγών* probably arise from a common form *agham*.

Accus. Sing. Sanskrit *mā-m*, *mā*; Greek *μέ* or *ἐμέ* (‘prosthetic’ or auxiliary, see p. 83), *ἐμεί* Doric; Latin *mē*. Quintilian (i. 5. 20) speaks of *mehe*: and in Old Latin *med*, *ted*, *sed* occur, probably formed on analogy of the ablative in *-d*. The quantity of *mē* as compared with *μέ* is variously explained as arising from confusion with the ablat. *mē* (Corssen²), as a consequence of its being monosyllable (Schleicher, § 265), or as a compensation for the loss of *-m*, i. e. *mē=mē-m*, *mī-m* (stem *mi-* as in *mi-hi*).

Gen. Sing. Sanskrit *máma* (stem reduplicated, case ending lost); Greek *ἐμεῖο* (Epic)=*ἐμε-συο* (as *-οιο* of nouns, p. 119), *ἐμείω* (Doric), then by loss of *ι* (*y*) *ἐμέο*, and by contraction *ἐμοῦ*, *μοῦ* (Attic), *ἐμεῦ*, *μεῦ* (Doric). *ἐμέ-θεν* (Homer and Eurip. Hcl. 177) is formed by the suffix *-θεν*: so *μέθεν* quoted by Ahrens from Sophron (circ. 450 B. C.). The forms *ἐμέος*, *ἐμοῦς*, *ἐμεῖς* (Doric), *ἐμείως*, *ἐμῶς* (Syracusan), are usually explained as addition of gen. sign *-s* to the old genitive. In Latin *mei* is probably a locative, or borrowed from the possessive *meus*. An old genitive *mis* is said to have been used by Ennius.

Ablat. Sing. Sanskrit *ma-t*, Latin *mē-d* (as *tē-d*, *sē-d*), a form restored by Ritschl to many passages in Plautus, e. g. Trin. ii. 1, 36; Amph. ii. 2, 178; Most. ii. 1, 18.

Locat. Sing. Sanskrit *máyi*; Greek dat. *μοὶ* (*μο-*+*ι*); and perhaps Latin gen. sing. *mei*.

Dat. Sing. Sanskrit *má-hyam*; Greek *ἐμίν* (Doric)=*ἐμέ-φιν*=*(e)má-bhyam*, cp. p. 129; a form *ἐμίνη* (Tarentine) is also quoted. Latin *mi-hei*, *mihī* (afterwards *mihī*) is perhaps for *mif-ei*, *f* representing an original *bh*, which becomes *b* in *tibei*, *sibei*.

Instr. Sing. No trace in Greek or Latin.

Nom. Plur. The Indo-European stem of this case was perhaps

¹ See Wordsworth, ‘Fragments,’ etc. Introd. xii. 4.

² ‘Kritische Beiträge zur Lateinischen Formenlehre,’ p. 528.

1st Personal Pronoun. formed by addition of the pronominal element *-sma* (*sa-ma*) to the demonstrative stems *ma-*, *a-*, *va-*, i.e. *ma-sma-*, *a-sma*, *va-sma*. The first would account for Lithuanian *m̄es*; the second for (Vedic) Sanskrit *asmé*; the third for Sanskrit *vayám*, Gothic *veis*, English *we*. Greek *ἡμεῖς*¹, ἡμεῖς (Aeolic), ἡμές (Doric), arise from stem *asma*, *asmi*=ἀμμι- (by assimilation, p. 74) or *ημι-* by loss of *s* and compensatory lengthening of *a* to *η* (cp. ἐσ-μι, εἰμι).

Latin *nōs* (*enōs*, Carm. Arval.) seems connected with stem *no*, which occurs in Greek *νῷ*, Sanskrit dual *nāu*, and accus. gen. dat. plur. *nās*. It may be that *nōs* is an accus. used as nom., and originally *nōs* (Sanskrit *nās*), but strengthened from analogy of the common accus. plur. in *-os* (*equōs*). Bopp, however, considers that *nos-* is the stem, found e.g. in *nos-ter*, and connects both it and Sanskrit *nās* with *sma*, whence he derives *-met* in *egomet*, etc., and *immo=i-sma*.

Accus. Plur. Sanskrit *asmān=asman-s*; Greek *ἡμέας*, ἡμεῖς (Aeolic), from same stem as nom. plur.: Latin *nos* as nom. plur.

Gen. Plur. Sanskrit *asmákam* (an adjective in acc. sing. neut.), *nas*: Greek ἡμμέων (Aeolic), *ἡμέων* (Ionic), *ἡμῶν*, *ἡμείων* (Epic) from stem *ἀμμε-*, *ημι-*; Latin *nostrum=nostro-um*, gen. plur. of possessive stem *nostro-*. *Nostro-rum* is also found in Plautus.

Abl. Plur. Sanskrit *asmá-t*; Latin *no-bis* (as dat.).

Loc. Plur. Sanskrit *asmá-su*; Greek (Aeolic) ἡμμέ-σιν.

Dat. Plur. Sanskrit *asmá-bhyam* or *nas*; Greek *ἡμῖν*, ἡμιν, where *ω=ι-φιν* (see above, p. 130); Latin *nō-bis* (=*nos-bis*, if *nos-* be stem).

Dual. Greek nom. acc. *νῷ*, *νώ*, *νῶε* (Boeotian), gen. dat. *νῷν*, *νῷν*, are forms from a stem *νω-*=Sanskrit *nāu*, which is used (without inflection) for nom. gen. and dat. dual. In form this *nāu* is a regular nom. acc. dual from stem *na-*, as *άçvāu* from *άçva-*.

2nd Personal Pronoun (tva).

¹ An Ionic form *ἡμέες*, sometimes found in MSS. of Herodotus, seems to have had no existence.

Nom. Sing. Sanskrit *tvam* (perhaps = *ta + va + ma*) ; Greek ^{2nd Personal Pronoun.} *σύ, τύ* (Doric), with Boeotian forms *τούν* or *τύν-η*, where *v* probably = -*m* of *tvam* ; Latin *tu*. In *τύ, tu*, the *u* represents *v* or *f*.

Acc. Sing. Sanskrit *tvā-m* or *tvā* ; Greek *σέ, τέ* (Doric) (= *σfέ, τfέ*), *τίν* (Boeotian) ; Latin *tē=tve-m*, stem *tvi-* (for quantity see above on 1st pers. pron.) ; Umbrian has *tiom*, which either = *tuom*, = *tvam*, or (Corssen) = *tvio-m* from stem *tvi-* lengthened by *a* (cp. *e-u-m=i-o-m* from stem *i-*).

Gen. Sing. Sanskrit *táva* ; Greek *τεοῖο* (Epic), = *τεfо-σyо=* *tava-sya* (see p. 118) ; *σeіo=tvа-sya*, then *σéo, σeū* (Ionic), and *σoū* ; Doric *τeоvѕ, τeūvѕ, τlωs*, in which -*s* is added to the old form (ep. on 1st pers. pron.).

Abl. Sing. Sanskrit *tva-t* ; Latin *tē* (old Latin *tēl*).

Dat. Sing. Sanskrit *tu-bhyam* ; Latin *ti-bi* ; Greek *τeīv* (Epic).

Nom. Plur. The Sanskrit forms *yushmé* (Vedic nom.) and *yushmá-n* (accus.) point to *tva-sma* as the Indo-European form. The Greek and Latin forms (*ὑμεῖς, ὑμμεῖς, ὑμέ, vos*) are parallel to those of 1st pers. pron., and so throughout the plural of 2nd pers.

Dual. The Greek forms *σφῶt, σφώ* (nom. acc.), and *σφῶv, σφῶv* (gen. dat.), retain in *φ* the *v* sound of *tva* : *σφ=tv*. Latin has retained the *v* in *tui* and the possessive *tuus* (= *tras*).

Reflexive Pronoun (sva).

The stem *sva-* appears in Sanskrit only in compounds, e.g. *sva-yam* (self), *sva-tas* (by oneself), etc.¹ : but it is used to form the possessive *sva-s* = Latin *suus* = Greek *σfós*, which appears (by loss of *f* and change of *σ*, see p. 66) as *ōs* the possessive pronoun in Homer. There is one distinction of gender in this pronoun, viz. Greek nom. acc. plur. neut. *σφέa*.

Nom. Sing., wanting in Greek and Latin.

Accus. Sing. Greek *է*, Aeolic *fé=σfέ*, Epic *էé=σeфé* (see pp. 66, 68). *σfé=sva*, with inflection lost. The forms *μív* (Epic), *vív* (Doric), are perhaps reduplicated accusatives of stem

¹ See Curtius' 'Elucidations,' p. 85.

Reflexive
Pronoun.

i- (*iμιμ*): cp. Latin *sese*. Latin *sē=svē=svi-m*: Oscan *siom* either=*sva-m* or *svi-o-m* (see above on 2nd pers.). Old Latin *sed*; see on *med*, *ted* accus.

Gen. Sing. *εἰο* (Epic)=*σφε-σγο*, *ἔο* (Ionic), *οῦ* (Attic), *εῦ*, *ἴοῦ* (Doric), *ἴοῦς* (Boeotian), (see above on *ἐμοῦς*, *τεοῦς*). In all these forms the aspirate=*σ* (p. 66) and *f* has disappeared.

Abl. Sing. *sē*, original *sēd=sei-d* from stem *si* (*in si-bi*) =*svi*.

Loc. Sing. *οῖ*, Aeolic *foî=σφο-î*; Latin *sui* (see on *mei*, *tui*, p. 143).

Dat. Sing. Boeotian *έῖν*, Doric *ἴν* (*έῖν*)=*έφίν*; Latin *si-bi*, Osean *si-fei*, Umbrian *si-be* and *se-so* (Tab. Eugub.¹), which is perhaps a reduplicated locative=*se-so-i* (?), or a genitive form =*sva-sya*: but these are only conjectures to explain a very obscure form.

In the plural Greek retains the stem but little altered (*σφει=sva*), and has a very complete set of forms: while in Latin the plural forms are identical with the singular. Thus in Greek,—

Nom. Plur. *σφεῖς=σφέ-ες*.

Accus. Plur. *σφᾶς*, *σφέ-ας* (Ionic), *σφεῖ-ας* (stem raised), Doric *σφέ* (inflection lost), Aeolic *ἄ-σφε* (*ά* ‘prosthetic’ or ‘auxiliary,’ see above, p. 83).

Gen. Plur. *σφῶν, σφέ-ων* (Ionic), *σφεῖων* (Aeolic).

Loc. Plur. *σφεῖ-σι.*

In Greek *Dual* the stem *σφω-*=*svā*. *σφω-* then has the dual nom. acc. inflection as well as the stem vowel lengthened; *σφωῖν* (gen. dat.).

¹ Wordsworth's 'Fragments,' Introd. xii. 9.

I. PRONOMINAL DECLENSION WITHOUT GENDER.

(i.) *Pronoun of the 1st Person (ma-):—*

	Sanskrit.	Greek.	Latin.
Singular :—			
Nom.	ahám	ἐγών, ἐγώ	ego
Accus.	mā-m, mā	ἐ-μέ, μέ	mē
Gen.	máma	ἐμεῖο (ἐμε-συο)	(mei ?)
		ἐμοῦ, μοῦ	
		ἐμοῦ-s	
Abl.	ma-t		
Loc.	má-yi	ἐμο-ί, μο-ί	mei (unless gen.)
Dat.	má-hyam	ἐμίν (ἐμε-φιν)	mi-hei, mihi
Instr.	má-yā		
Dual :—			
Nom.	āvám		
Acc.	āvám, nāu	νῶι, νώ	
Gen. Loc.	āvá-yōs		
Dat. Abl. } Instr. }	āvá-bhyām (nāu)	νῶ-ιν, νῶν	
Plural :—			
Nom.	vayám	ἄμμες (ἀσμι-)	nōs (? nōs)
	asmé (Ved.)	ἡμέ-ες (ἡμι-)	(enōs, Carm. Arv.)
		ἡμεῖς	
Acc.	asmá-n	ἄμμε	
	nas	ἡμέας, ἡμᾶς	nōs
Gen.	asmá-k-am (adj.)	ἡμεί-ων, ἡμέ-ων	nostrum (nostro-um)
	nas	ἡμῶν	nostri
Abl.	asmá-t		
Loc.	asmá-su		
Dat.	asmá-bhyam	ἄμμιν (ι-φιν)	nō-bis
	nas	ἡμῖν	
Instr.	asmá-bhis		

(ii.) Pronoun of the 2nd Person (*tva-*) :—

	Sanskrit.	Greek.	Latin.
Singular :—			
Nom.	tva-m	τύ, σύ	tu
Accus.	tvā-m, tvā	τέ, σέ (= τέ)	te = tve-m
Gen.	táva	τεοῦ (= τεο-σγο) σεῦ, σεο σοῦ, σεν τεοῦς	(tui?)
Abl.	tva-t		
Loc.	tvá-yi	σοί (tva-i)	tui (gen.)
Dat.	tú-bhyam	τεῖν (ι-φιν)	ti-bei, tibi
Instr.	tvá-yā		
Dual :—			
Nom.	yuváṁ	} σφῶι, σφῶ	
Acc.	yuváṁ, vām		
Gen. Loc.	yuva-yōs		
Dat. bl. }	yuvá-bhyām	σφῶιν (-ι-φιν)	
Instr. }	vām	σφῶν	
Plural :—			
Nom.	yū-yám	ὑμεῖς	vōs
	yushmē (Ved.)	ἱμέες, ἱμεῖς	
Acc.	yushmá-n	ὑμηε	vōs
	vas	ἱμέας, ἱμεῖς	
Gen.	(yushmáka-m, adj.)		
	vas	ἱμείων, ἱμέων ἱμῶν	vostrum vostri
Abl.	yushmá-t		
Loc.	yushmá-su		vō-bis (dat.)
Dat.	yushmá-bhyam	ὑμιν (ι-φιν)	vo-bis
	vas	ἱμᾶν	
Instr.	yushmá-bhis		

(iii.) *Reflexive Pronoun (sva-):—*

	Greek.	Latin.
Singular :—		
Nom.		
Accus.	$\xi, \digamma\epsilon, \xi\dot{\epsilon} = \sigma\epsilon\digamma\epsilon$ $\mu\nu, \nu\nu$	sē (= svi-m)
Gen.	$\epsilon\hat{o} = \sigma\digamma\epsilon-\sigma\gamma o$ $\xi o, o\hat{v}, \epsilon\hat{v}, \dot{\epsilon}o\hat{v}$ $\dot{\epsilon}o\hat{v}-s$	siom (Osc.) (sui ?)
Abl.		
Loc.	$\epsilon o\hat{l}, o\hat{l}$ ($\digamma o\iota = \sigma\digamma o\iota$)	sui
Dat.	$\xi i\nu, i\nu = \epsilon-\phi\nu$	sibei, sibi Osc. si-fei
Dual :—		
Nom. Acc.	$\sigma\phi\omega-\acute{\epsilon}$	
Dat. Abl. Instr.	$\sigma\phi\omega-i\nu$	
Plural :—		
Nom.	$\sigma\phi\epsilon\bar{s}$ ($\sigma\phi\acute{\epsilon}-es$)	
Accus.	$\sigma\phi\acute{\epsilon}-as, \sigma\phi\epsilon\bar{s}$	$\sigma\phi\acute{\epsilon}-a$ (neut.)
	$\sigma\phi\check{a}s$ (Epic), $\sigma\phi\acute{\epsilon}$ $\check{\alpha}-\sigma\phi\acute{\epsilon}$	
Gen.	$\sigma\phi\acute{\epsilon}\omega\nu, \sigma\phi\acute{\epsilon}\iota\omega\nu$ $\sigma\phi\hat{\omega}\nu$	
Loc.	$\sigma\phi\acute{\epsilon}-\sigma\iota$	
Dat.	$\sigma\phi\acute{\epsilon}(v)$ ($i-\phi\nu$)	as in sing.
		as in sing.

(2) Pronouns with Gender.

The declension of these is rather complex, especially in Latin, Pronouns with Gender. where a great variety of pronominal stems is found; and an examination of all their forms belongs to the special grammar of each language. The following tables give the declension of the Indo-European demonstrative stem *ta-* in Sanskrit, Greek, and Latin; which, compared with the declension of nouns already given (above, ch. vi.), will serve for the general illustration of this class of pronouns.

Pronominal Stem *ta-*.

I. Masc. and Neut. :—

	Sanskrit.	Greek.	Latin.
Stem	ta-	το-	is-to- (i + sa + ta)
Singular :—			
Nom.	sa, ta-d	δ(s), τό	istu-s, is-te, istu-d
Acc.	ta-m, ta-d	τόν, τό	istu-m, istu-d
Gen.	tá-sya	τοῦ, τοῦ	istius (isto-i-os)
Abl.	tá-smâ-t	[τως = τω-τ]	isto-d
Loc.	tá-sm-in	[οἱ = δ-ι]	isti? { = isto-i (loc.) as humi, quo
Dat.	tá-smâi	τῷ = το-οι	{ = isto-ei (dat.) as quoie
Instr.	tēn-a		
Dual :—			
Nom. Acc.	tâu (tâ), tê	τώ	
Dat. Abl.	tâ-bhyâm	το-ῶν	
Gen. Loc.	tâ-y-ôs		
Plural :—			
Nom.	tê, tâ-n-i	τοί, οἱ, τά	istî, ista, ista-e-c (eis, his, ques)
Acc.	tâ-n, tâ-n-i	τόνς, τούς, τά	istō-s, ista
Gen.	té-sham	τῶν	istō-rum
Loc.	té-shu	τοῖσι, τοῖς	istis (queis)
Dat. Abl.	té-bhyas		(qui-bus, hî-bus, hoi-bus)
Instr.	tâis		

II. Feminine :—

	Sanskrit.	Greek.	Latin.
Stem	ta-	τα-	ta-is-ta
Singular :—	-		
Nom.	sâ	ἡ	is-ta, qua-i (quae)
Acc.	tâ-m	τὴν	is-ta-m
Gen.	tá-sy-âs	τῆς	is-tius
Abl.	tá-sy-âm		is-tâ(-d)
Loc.	tá-sy-âi	τῇ	is-ti (as above)
Dat.	tayâ	(ἡφει)	

	Sanskrit.	Greek.	Latin.
Dual :—			
Nom. Acc.	tē	τά	
Dat. Abl.	tá-bhyām	ταῖν	
Gen. Loc.	tá-y-ōs		
Plural :—			
Nom.	tā-s	ταῖ	is-tae
Acc.	tā-s	τά-s	is-tā-s
Gen.	tá-sām	τάων, τῶν	is-tā-rum
Loc.	tā-su	τῇ-σι, ταῖ-s	is-tis
Dat. Abl.	tá-bhyas		
Instr.	tá-bhis		

N.B. Gen. sing. -ius
 Nom. fem. and neut. istaec, quae } show increase of { isto-i-us
 } stem by i: thus { ista-i-ce, qua-i.

Comparing these forms with those of the nominal declension Pronouns with Gender. it will be seen that the nom. sing. termination -s is omitted from Sanskrit sa (masc.), being in fact (see p. 110) a mere repetition of sa. Thus beside Greek ὁς (Epic as a demonstrative pronoun) =sa-s, we have the later form ὁ=sa.

In Latin the -s is lost in *ille*, *ipse*, *istē* (where final stem vowel sinks to ē), *qui* (=quo-i-s), and *hic* (=ho-i-ce); but is retained in the old forms *ipsus*, *istus*, *ollus*, and regularly in *quis* (=quō-s), *is*, *alius*, etc.

The nom. acc. termination of neut. sing. in -d is characteristic of this class of pronouns. Sanskrit and Latin have retained the d, which Greek has lost: Zend has d in *tad*: and Gothic *thata*, whence our *that*. Bopp, Schleicher, Curtius and others give *tat* as the Sanskrit neut. sing.; Bopp explaining ta-t as =ta+ta, a repetition of the pronominal element (like *sas*=*sa+sa*), and illustrating the change to Latin d by the old ablatives *gnaivod*, etc.; ep. with Sanskrit abl. in t. But here also (see above, p. 124) -d is probably the earlier form of the termination. And if *tat* were the true form in Sanskrit, phonetic analogy would (it is said) require in Latin *istut*, in Gothic *tha-tha*. It is probable therefore that Latin -d is the original

Pronouns with Gender. form, and not a modification of *t*. Greek neut. sing. nom. having thus lost the final τ (δ) ends in *o*: but in other respects the pronominal is the same as the nominal declension of *o-* and *a-* stems.

In Latin also the *a* of stem *ta* is represented by *o* (masc. and neut.) and *a* (fem.), *quis*, *i-s*, *ali-s* being exceptions. But on the other hand there are certain peculiarities which distinguish the Latin pronominal declension more markedly than the Greek from that of noun stems in *a-*, *o-*, e.g.—

Peculiarities of Latin Pronoun-declension. (a.) Gen. sing. formed by addition of *-os* or *-us* (Indo-European *-as*, see p. 118) to the stem lengthened by *i*: thus *istius*=*is-to-i-os*, *huius*=*ho-i-os*, *cuius*=*quo-i-os*. This *-os*, *-us*=*-is* of consonantal declension.

(b.) Locative singular in *-i* used as dat., e.g. *is-ti*=*is-to-i* (see p. 126). The form *quoiei*, however, is apparently a true dative, from the stem increased by *i* (*quo-i-ei*), the locative form *quo-i* (*cui*) being the more usual in classical times.

(c.) It has both locative plural (*is-tis*, see p. 127) and dative plural (*qui-bus*).

(d.) The neuter termination *-d* (see above).

(e.) Increase of the stem by *i*. This *i* is probably parallel to the Greek suffix *ι*, found with pronouns especially, but after the case-suffix, e.g. *οὐτοσι*, *τοδι*, *οὐτοι*, etc. Its place in Latin is between the stem and the case-suffix, and it is not carried through all the forms. It occurs always in gen. sing. *i-us*=*o-i-os*; often in nom. fem. sing. (*qua-i*, *ha-i-c*, etc.) and in neut. plurals which are similar in form; in masc. and fem. plurals in *-i* and *-ae*=*o-i*, *a-i*, as in nominal declension of *o-* and *a-* stems (p. 113), and in such dat. forms as *quo-i-ei*, *e-i-ei*.

The declension of Latin pronouns is treated very fully in Wordsworth's 'Fragments and Specimens of Early Latin' (Introd. ch. xiii. pp. 91-112). I give here the main results of Mr. Wordsworth's discussion, referring the reader to his work for details.

The chief pronominal stems in Latin are *ho-*, *to-*, *so-*, *co-* (*quo-*), *ollo-*, *i-* or *eo-*. These are employed in the formation of pronouns in various ways, viz.:—

- (1) Simply, as *quo-d*, *ollu-s*, *i-s*.
- (2) Reduplicated or compounded, as in *is-to*, *i-p-so*, *quis-quis*.
- (3) Increased by *i*, as *qui* (*quo-i*), *eīei* (see above).
- (4) Increased by *i* and compounded, as *ho-i-ce* (*hīc*), *is-to-i-c* (*istic*).

Formation
and Declen-
sion of Pro-
nouns in
Latin.

These are divisible into three classes, according to simplicity of declension : viz. :—

- (i.) *Ollō-*, *isto-*, *ipso-*, *alio-*, etc.
- (ii.) *Ho-*, *quo-*, *i-* or *eo-*.
- (iii.) *So-*, *to-*, etc., defective and enclitic stems.

The following peculiar or archaic forms may be noted under each of these classes :—

(i.) *Ollus* (= *ille*) found in Ennius and old inscriptions, and surviving in *olim*, which preserves the oldest form with one *l*. Peculiar or archaic forms. In Lucretius and Virgil it is an intentional archaism.

Istus, *ipsus* are found in Plautus, and even in Terence (Hec. iii. 5. 5). The element *p* in *i-p-so* is the same which appears (as *p* or *pe*) in *rea-p-se*, *quis-p-iam*, *nem-pe*, *pro-pe*.

Alis, *alid* are late contractions of *alius*, *aliud* : *alis* is fem. in Catull. lxvi. 28 : *alid* is frequent in Luer., who does not use *alis*.

The locative *is-to-i*, *isti* (see above, p. 126) is strictly locative in the adverbs *illi-c*, *istī-c*. A few examples of its use as genitive (perhaps from analogy of noun stems in *o-*) are given : e. g. Ter. And. iii. 5. 2, *nulli consili*; Plaut. Trin. ii. 2. 37, *coloris ulli capiendi*; ib. v. 38, *isti modi*. In each of these cases an ordinary genitive in *-i* is close at hand to suggest the analogy. Terence has *alterae* and Plautus *istae* for dat. fem.

A locative formation in *-im* or *-in* (cp. Sanskrit *ta-sm-in*) occurs in the adverbs *olim*, *illin-c*, *istinc*, *hin-c*, etc., cp. *long-in-quus*, *prop-in-quus*.

The plural is declined like ordinary *o-* stems.

(ii.) The stems *ho-* and *quo-* are further increased by *i*; *ho-* having generally the enclitic *c*, or *ce* appended (a remnant of the pronominal stem *co-*). The increase takes place in sing. nom. *hīc* (*ho-i-c*), gen. *huius* (*ho-i-vs*), loc. *hīc* (*ho-i-c*), and plur.

Declension
of Pronouns
in Latin :
peculiar or
archaic
forms.

nom. *hi* (*ho-i*), *ha-i*; dat. and abl. *hibus* (*ho-i-bus*, for examples see Wordsworth, p. 107).

The stem *quo-* (relative), when used as an interrogative pronoun, has a special inflection for nom. with the case suffix *s*, the stem vowel *o* being weakened to *i* (*qui-s*, *qui-d*). The same form is used indefinitely in *ali-quis*, *si quis*, *ne quis*; but then nom. fem. sing. and neut. plur. are not increased by *i*: e.g. *aliqua*, *si qua*.

In the declension of *is*, the stem *i* is sometimes increased by *i* to *ei* (nom. *e-i-s*, gen. *e-i-us*, dat. *e-i-ei*, nom. plur. *i-i*, *e-i-s*), sometimes turned into an *o-* or *a-* stem (*eo-m*, *ea-m*, etc.).

The following peculiar forms may be noticed :

Nom. Sing. : *ei-s* (raised form of *i-s*) is found on some inscriptions; and perhaps *adeo* represents a raised form of neut. *id* (*ad*, *eod*): but this is at best doubtful.

Hic (*ho-i-c*) is sometimes shortened to *hic* (Virg. Aen. iv. 22), but not often : *hoc* (*hod-ce*) never.

Acc. Sing. : *im*, *em* in quotations from old laws¹ point to a time before the stem *i* was raised to *eo-*.

Huc (adv.) is originally *hoc*, ‘to this place,’ as in Aen. viii. 423, Ter. Eun. iii. 2. 48, and frequently in Plautus.

Hone (Ep. Scip. Appendix I. i. 2) and *quo-m* (S. C. de Bacch.) are old Latin forms. *Quom* is the adverb *quum* or *cum*; cp. *quon-dam*: and *quam*, *quanquam*, *quod* are all adverbial accusatives. (See Appendix II. A.)

Gen. Sing. : the suffixed *i* generally becomes consonantal; and in old poets *huius*, *cuius*, *eius* are often monosyllables.

Locat. Sing. : *heic* or *hīc* (adv.) is locative = *ho-i-c*, and so perhaps are *quī*, *qui-ne*, and *qui-ppe* (sometimes explained as ablat.). The form *quo-i* is found in Plautus² in the phrase *quoimodi*, apparently gen. (cp. *istimodi* above, p. 153); and *cui-modi* or *cuicuimodi* are found in Cicero³.

¹ E.g. XII Tab. i. 1, ‘Si in jus vocat, ito; ni it, antestamino; igitur em capito;’ and viii. 12, ‘Si nox furtum faxsit, si im occisit, jure caesus esto.’ The existing remains of the XII Tables are given in Wordsworth’s ‘Fragments,’ pp. 254–265.

² For references see Wordsworth, Introd. xiii. 30 (p. 103).

³ Pro Rosc. Amer. 95, ‘Vereor enim cuicuimodi es;’ Att. iii. 22 ad fin., ‘cuicuimodi again.’

Dat. Sing. : *ei-ei* on inscriptions ; *ei-i* or *ē-i* in Plautus, and Declension of Pronouns Luer. ii. 1136 (*cibus omnis diditur ei*) : *quoi-ei* on inscriptions. in Latin.

Nom. Plur. : the forms *eis*, *hische*, *ques* have been alluded to under the noun declension (p. 114) : for examples see Wordsworth, ‘Fragments,’ Introduction ix. 9 and xiii. 34. In the feminine *haec* (for the more usual *hae*) is not uncommon : e. g. Virg. G. iii. 305, Aen. vi. 852 (Cod. Pal.), vii. 175 (Rom.); Luer. iii. 601 and vi. 456; Catullus, lxiv. 320.

The adverbial forms *postillā*, *proptereā*, *posteā*, *anteā*; *posthāc*, *antidhāc*, *quāproppter* ; and the numerals *trigintā*, etc., show an earlier neut. plural of the pronouns in *a* without increase by *i*, as in *ha-i-c* (*haec*) ; and are evidence for the original quantity of neut. plur. *ā*, seen in Sanskrit, and traceable in Latin poetry: e. g. Virg. Aen. iii. 464 *graviā*, Ter. Ad. 612 *debiliā*. (See Corssen, vol. ii. p. 460; Wordsworth, Introduction ix. 10, and xiii. 35; and cp. Wagner, Introd. to Terence, p. 14.) A form *ead* in S. C. de Bacch. is disputed, Bopp thinking it accus., Ritschl ablat.

Loc. Plur. : *eis*, *queis* or *quīs*, *heis* or *hīs* are all in common use as dative and abl. as well as the dative forms in *-bus*, which are more usual with *quo-*. Examples of *hībus*=*ho-i-bus*, *ī-bus* and *ī-bus* are given by Wordsworth, p. 107.

(iii.) The defective stems *so-*, *to-* and others are chiefly traceable in adverbial forms. Defective stems.

So- (Sanskrit *sa-*, Greek *δ*, English *she*, German *sie*) is seen in *i-p-so*, and the old accusatives *sum*, *sam*, *sos*, *sas* in Ennius and the XII Tables (Wordsworth, p. 108). *Sic* (*sei-ce*) and *si* (*sei*) may be locatives of the same stem: but the analogy of Oscan *savi* and Umbrian *sve* (=Latin *si*) rather points to the pronominal element *sva*. *Sei*, *si* (Italian *se*) is the same word as *si-c*, originally a pronominal adverb=‘there,’ ‘in that way,’ ‘in case that,’ and so ‘thus’ and ‘if;’ cp. the use of *so*=‘if’ in English, e. g. Tennyson’s ‘Guinevere’:—

‘It may be, *so* thou purify thyself,
And *so* thou lean on our fair father Christ,
Hereafter in the land where all is pure
We two may meet.’

Pronouns in Latin:
Defective stems.

Ta-, *to-* (Greek *το-* in *αὐτός*, *οὐτός* and oblique cases of article; declined throughout in *is-to*, see the Table on p. 150) survive in a number of adverbs: e. g. *ta-m*, *ta-nthus*, etc. (retaining the vowel *a*); *tum*, *tun-c*, *i-tem*, *au-tem* (*a* sunk to *u* and *e*). *U-ti* (*u-tei*, *ut*) is a locative from this stem; and *au-t*, *a-t*, *e-t* are perhaps locatives similarly shortened. *I-tā* (so in Naevius' Epitaph, '*Itāque póstquam est Órei tráditús thesaúro*') is ablative = 'this wise.' so *aliu-ta*, 'otherwise.'

From *da-*, *do-*, a similar stem to *ta-*, appear to be formed numerous adverbs and terminations, e. g. *-dam*, *-do*, *-dum*, *-dem*, *-de*, as in *quon-dam*, *quan-do*, *do-nec*, *age-dum*, etc.; *tan-dem*, *qui-dem*, etc.; *in-de*, *un-de*, etc. Into all these forms the idea of time enters (not necessarily duration of time as distinct from point of time in *tum*, etc.; for e. g. *-dum* = 'now' in *age-dum*, etc., as well as 'while')¹: hence it is possible that they may all be referred to the root *div-*, the origin of *dies*, *de-us* and many Indo-European words for the conception of 'brightness' or 'day' leading to that of 'God'², in Sanskrit **Dyaus-pitar** (*Dies-piter*, 'sky-father'), whence **Zeús**, **Jup-piter**, **Diūs Fidius** (*Zeús πίστιος*), etc.; *inter-diūs*, *inter-diū*; *prope-diēm*, *pri-die*, etc. There is certainly in these latter words and the adverbs of which we are speaking a close parallel between the noun stem *div-* and the supposed pronominal stem *da-*, *do-*: and the two stems are identified by Corssen. Other philologists, however, regard the identification as improbable; and it certainly cannot be taken for granted.

Dē (prep.) is abl. from stem *da-*, like *sē-d*, *sē*, from *sa*. *Ia-m* is explained by Corssen (i. p. 213) as = *dia-m*, 'this day' (*die-m*), like Greek *δή*, *ἡδη*, *δήν*. Others refer it to a stem *ja-*, *ya-* (? German *ja*, our *yea*). In *quis-p-iam* its temporal sense is lost: but *et-iam*, *quoniam* retain it in their original use.

A stem *na-* (*no-*) or *an-* is supposed to account for *na-m*, *quis-nam*, etc. The full form is found in these and various weakened

¹ On the various uses of *dum*, see Ramsay's 'Mostellaria,' Excursus, ii. p. 184.

² On these words, see especially Max Müller's 'Lectures,' Series II, Lect. x. pp. 425-461, 1st ed.; and Peile, 'Introduction,' ch. v. p. 122 (3rd ed.).

forms in *nu-m*, *nun-c*, *vñv*; *nem-pe*, *e-nim*, and Greek *ñv*, which last is of course pronominal (see above, p. 145). These are all accens. forms: *nae (na-i)*, *nē*, Greek *va-i*, are locative.

The stem *an-* is preserved in Greek *ává*, *áv*, Latin *an* and *in*, *endo*. Its force is ‘that,’ ‘the other.’ Sanskrit has *aná* and Lithuanian *ana-s=ille*. Curtius compares *áv-ω*, and Latin *an-helare*, ‘to draw up breath.’ The negative prefixes *áv-*, *á-*, Latin *in-*, Sanskrit *an-*, *a*, German and English *un-*, are perhaps connected with the same stem; *áv*, *an* in hypothetical sentences and questions are also akin. *In*, *endo*, Greek *év-i* and *eis=év-s* or *év-i-s* are local in meaning: the two uses of *in* with acc. and abl. being parallel to the two Greek forms.

The enclitic terminations *ce* or *que* in *hi-c*, *ne-c*, *ne-que*, *at-que*, etc. must arise from a stem *co-*, perhaps a variety of *quo-* (= ‘who,’ ‘which,’ ‘any’), with the demonstrative meaning ‘there:’ *-pe* in *i-p-se*, *quis-p-iam*, *rea-p-se*, etc., and in *qui-ppe*, *nem-pe*, *pro-pe* is possibly a dialectic variety of *ce*; Osean and Umbrian substituting *p* for *k* (by ‘Labialism,’ see chap. iv. p. 50).

CHAPTER VIII.

VERB INFLECTION.

Distinction
between
Verb and
Noun

THE Verb (*ρῆμα, verbum*, the ‘word’ *par excellence*) in Greek or Latin exhibits a much greater variety of inflection than the Noun. Time, mood, person, number, and voice are all expressed, and in some forms all at once, by inflectional additions to the root or simplest form expressing the idea; this verbal root being in no way different from a nominal root, so far as any power of expressing action etc. is concerned. Verbs are thus only nouns with a pronominal affix. The *abstract idea* of e.g. action, motion, sensation, etc., can be expressed equally by a nominal or a verbal root; but when expressed by a verbal root it is further brought into relation as a verb with other words in a sentence, (1) by *Person endings*, attaching it to a definite *subject* or subjects (the distinction of Number being expressed, as in Noun Inflection); (2) by *Modal elements*, defining the aspect under which the action is regarded, as a fact or a supposition; (3) by *Tense elements*, ascribing it to a particular relation in *time*.

Verb forms
more com-
plex.

A verb form, then, is distinguished from a noun form mainly by the greater number of different elements combined in it. In any ease-form of a noun we find one invariable element, the stem, and one variable element, the case-ending, as in *παιδ-ός*, *παιδ-ί*, *παιδ-ών*, etc.; or at most a vowel besides, inserted to connect the case-ending with the stem, as in *παιδ-ε-στι*. But

there are very few verb forms of so simple a character. In e. g. *i-μεν* we have only stem and inflection; in *ἄγ-o-μεν*, stem, ‘thematic’ vowel, and inflection; but in *ἴωμεν*, *ἄγοιτε*, we have an additional element denoting *mood*; in *ἀγάγοιτε* a further addition (to the verb stem) denoting *time*; in *ἥγαγον* another addition, viz. the *augment*. And a comparison of any of the more complex verb forms, in a ‘synthetic’ language like Greek or Latin, with their equivalents in an ‘analytic’ language like our own, is the best illustration of the general difference between an analytic and a synthetic language, and the specially complicated nature of the verb forms in the latter. The analysis of two such forms as *ἔφιλήσαντο* and *regeremus* shows (a) in *ἔ-²φιλή-³σ-⁴a-⁵ντ-⁶o*, ‘they loved themselves,’ 1. augment; 2. verb-stem; 3. addition to form tense-stem; 4. ‘thematic’ vowel added to the stem before inflection; 5. relic of a pronoun, denoting 3rd per. plur.; 6. voice-letter, indicating middle or passive: (b) in *reg-¹er-²e-³mu-⁴s*, 1. stem; 2. sign of past time; 3. sign of mood; 4. sign of 1st personal pronoun; 5. plural sign, denoting others with the person speaking. If s be changed to r (*regeremur*) it denotes that the speaker and others with him are *passive* instead of active.

The example last given (*reg-er-e-mus*) shows the order in which verb inflections are usually attached to the stem—viz. tense, mood, person, number, and voice. Modifications for tense and mood come between the stem denoting the idea of action, and the personal pronoun denoting the agent; inflections of number and voice, which affect the position of the agent by showing him to be either one of a number or passive instead of active, are appended after the personal pronoun.

The analysis of verb forms is thus more complicated than that of noun forms from the greater number of elements to be distinguished. There is also a further difference, that whereas in explaining the different forms of every single noun we can begin with one invariable element, i. e. with one stem only, in the explanation of verb forms we must assume several fixed points, from each of which we start as from a separate stem

Further difference between Verb and Noun;
Tense-
stems.

Verb Inflection : Tense-stems.

in the explanation of certain groups of forms. These special stems, or subordinate centres of classification formed from the verb-stem common to all, are known as *Tense Stems*; the elements of inflection by which *time* is denoted being of a less separable and general character than those of person or mood, and being in fact suffixes for the formation of subordinate stems, each of which is the permanent element or stem in a series of verb forms. Thus in a Latin verb the perfect and supine often show a different stem from that which appears in the present tense: and in a Greek verb such elements as ἀγαγ- in ἀγάγ-ωμεν, ἀγάγ-οιτε, ἀγαγ-έν, ἀγαγ-έσθαι; ἀξ- in ἀξομεν, ἀξοιμεν, ἀξειν, etc.; λύσα- in ἔλυσα, λύσα-ι-μεν, λύσα-s, λύσα-σθαι; or λέλυ- in λέλυ-κα, λέλυ-ματ, ε-λέλυ-το, have each a comparative permanence among a series of verb forms, and must be regarded as *stems*, though not the verb-stem, in each case. All scientific analysis, therefore, of verb forms in Greek and Latin must take into account the special tense-stems formed from the verb-stem (e.g. ἀγαγ- and ἀξ- from ἀγ- the stem of ἀγω; λύσα- and λέλυ- from λυ- the stem of λύω; τύπτ- and τύψα- from τύπτ- the stem of τύπτω, appearing in ε-τύπ-ην): and thus the question of *stem formation* must accompany that of *inflection* in the case of verbs to a much greater degree than in the case of nouns. ‘To state the case briefly, it may be said that in the noun, formation—that is, formation of the word, or more correctly of the stem—and inflection in the narrower sense are distinct; but in the verb they combine, and encroach each upon the other. He alone is completely master of the verb forms who from the verb-stem common to all can first form all the special stems, and secondly can inflect the stems when correctly formed¹.’ It is not however necessary to follow the rigidly scientific order of (1) formation, (2) inflection, or learn always to form uninflected stems before we know how to inflect them when formed: but the formation of stems must in the case of verbs be discussed at least *pari passu* with their inflection. It is not enough to understand how to inflect τύπτω, -εις, -ει, ἔτυψα, -ας, -ε, etc.,

¹ Curtius, ‘Elucidations,’ p. 93.

without understanding how these different forms are connected together in one verb.

In discussing the elements of Verb Inflection, it is usual to take them in the reverse order of their attachment to the verb-^{Elements of Verb Inflection:} stem, beginning from the end of the word with (1) the most universal and characteristic inflections, the *person-endings*, with their forms for active and middle (passive) *voice* and their inflections of *number*; (2) signs of *mood*; (3) *tense-inflections*, i. e. the formation of ‘tense stems.’

I. *Person-endings*, i. e. pronominal suffixes of 1st, 2nd, and 3rd person in singular, dual, and plural number. There are two series for (1) active, (2) passive ‘voice;’ and in each series there appear a fuller and a weaker form, which are distinguished as (a) *primary* (-*mi*, -*si*, -*ti*, etc., used with present, future, and perfect tenses), (b) *secondary* (-*m*, Greek -*v*, -*s*, -*t*, used with augmented tenses of Indicative), e. g.—

Primary, *τίθη-μι*, *τύπτο-μαι*, *τύπτο-νται*.

Secondary, *ἐ-τίθη-ν*, *ἐ-τυπτό-μην*, *ἐ-τύπτο-ντο*¹.

II. *Mood Signs*, to distinguish the Conjunctive and Optative Mood signs. ‘Moods’ from the Indicative. Of the other so-called ‘Moods,’ the ‘Infinitive’ is a verbal noun, while the ‘Imperative’ is distinguished from the indicative by a weaker form of person-ending, standing in the relation not of nominative but of *vocative*, and is thus a sort of verbal interjection.

[The force of Moods is a question of Syntax: but it may be noted here that there can be, strictly speaking, only *two* ‘moods’ (*modi actionis*, modes or aspects under which the action is regarded), viz. (1) direct assertion that it is taking, has taken, or will take place—‘Indicative’ Mood: (2) the idea or supposition of its taking place in past, present, or future time—‘Subjunctive’ or Indirect Mood. This latter includes two distinct series of forms, called respectively Subjunctive and Optative ‘Mood,’ and denoted in Indo-European by distinct suffixes; but the grammatical relation of these two so-called ‘Moods’ is rather analogous to that of Primary and Historic Tenses

¹ Curtius’ ‘Greek Grammar,’ § 226.

Elements of
Verb Inflec-
tion.

in the Indicative Mood, and in the Latin verb but one ‘Sub-junctive Mood’ is recognised. The position of the sign of mood (see above, p. 159) is appropriate to its functions, as modifying the relation between the subject (person-ending) and action (verbal stem).]

Tensestems; III. *Tense Stems* may be thus enumerated :—

1. Perfect stem, originally formed by reduplication.
2. Simple or Strong Aorist (2nd aor.), generally exhibiting the verbal-stem in its simplest form¹.
3. Present stem, from which with the augment is formed the Imperfect in Greek.
4. Weak or Compound Aorist.
5. Future stem.
6. Strong Passive Aorist (2 aor. pass.).
7. Weak Passive Aorist (1 aor. pass.).

By ‘Strong’ tense-stems we mean those which are formed from the verbal stem² by reduplication or increase. ‘Weak’ or ‘Compound’ stems are formed by combination of the verbal stem, generally with some formation from the root *as* (εσ), ‘to be.’ Under this head fall also such subordinate formations as the Pluperfect and ‘Futurum Exactum’ in Greek and Latin, from the Perfect Stem; or the special formation of the Imperfect in Latin.

Two other elements enter into Verb Inflection, an explanation of which may be given here—the Augment and the Thematic (or Connecting) Vowel.

The Aug-
ment;

IV. *The Augment.*

Language seems originally to have employed, as a means for expressing past time, the Augment—in Sanskrit *a*, in Greek ε (a-bhar-a-m, ε-φερ-o-v), prefixed to aorist, imperfect, and pluperfect tenses in both those languages. It is always accompanied by the secondary person-endings: but Curtius (‘Das Verbum,’ p. 104) suggests that it was originally the sole expression of

¹ As few Greek verbs develop both the strong and weak forms of the aorist; there are practically five groups of tenses in each Greek verb, viz. Present, Aorist, Future, Perfect, and Aorist Passive.

² See Curtius’ ‘Greek Grammar,’ § 246.

past time, and by increasing the word at the beginning gave ^{The Aug-} occasion for shortening the terminations. It was probably at ^{ment;} first a separable prefix: for (1) in older Sanskrit it is separable and (as in Homer) omitted at pleasure; (2) this separable character would help to account for its total disappearance in Latin, and in Greek from all moods but indicative. Of Its origin. its origin there have been various theories; but the only view worth noticing is that now adopted (e. g. by Curtius¹, Schleicher, etc.), viz. that it is a demonstrative pronoun-stem referring to past time, like the German *da*, *damals*. Its original form in Greek (as in Sanskrit) was *ā*, of which traces remain in the Greek dialects (e. g. *ἄσβεσθε*, *ἄβραχε*, *ἄδειρε*). This before a consonant became *ē* ('Syllabic Augment'): before a vowel it took the form of that vowel and combined with it to form one long syllable ('Temporal Augment'). Thus, e. g. the Doric *āyov* (imperf. of *āyw*) = *ā-ay-or*: and *āpto* corresponds to Sanskrit *ārta*, which no doubt arises from *a-arta*. This contraction took place before the separation of the *a* sound into *a*, *e*, *o* (p. 36): and after the root *ar-* became fixed in Greek as *ōp-*, *ōpto* stood to *ōpn̄mu* as *ārta* to *ar-nau-mi* in Sanskrit. With initial *i* and *u* we should have expected a diphthong, i. e. *ai*, *au* (*ei*, *eu*): but verb-stems beginning with *i* or *u* seem to have followed the analogy of other initial vowels; and no doubt the augment came to be regarded as nothing more than a lengthening of the initial vowel.

The separable character of the augment in Sanskrit and Homeric Greek is no proof that it is unessential. 'Language' (as Curtius well remarks) 'not unfrequently lays aside individual symbols of meaning, when by means of them forms have been coined so distinctly marked, that the original elements are no longer absolutely necessary.' In Attic Greek it is never omitted except in *χρῆν* impf. of *χρή*; in a few instances at the beginning of lines in the speeches of *ἄγγελοι* in the Tragedians²;

¹ 'Elucidations,' p. 110; 'Das Verbum,' pp. 104 sqq. (pp. 72 sqq. Engl. transl.).

² In such examples as Soph. Oed. Col. 1602, *ταχεῖ πόρευσαν*, and 1608, *πατρὸς πεσοῦσαι κλαῖν*, we probably have instances of 'prodelision' of the initial vowel *after* a final vowel sound of the preceding word.

The Aug-
ment.

and occasionally in pluperfect tense (but mainly in the Hellenistic Greek of the New Testament).

The position of the augment in verbs compounded with prepositions (Curtius, Greek Grammar, § 238) is due to the looseness of connection between verb and preposition. Where however the parts of a compound verb are not so separable, the augment is placed first : e. g. φέκοδόμησι from οἴκοδομέω.

Apparent
irregulari-
ties in the
Augment
explained.

Certain apparent irregularities in the form of the augment (Greek Grammar, §§ 236, 7) may be explained by the loss of a consonant :—

(a) ει instead of η before ἐθίξω, ἐλκω, ἐπομαι, ἐργάζομαι, ἐχω, ἐρπω, ἐστιάω, ἐάω, etc. With the exception of ἐάω, the origin of which is doubtful, it can be shown that all these verbs began originally with a consonant, and therefore had originally the syllabic augment ε, which after the loss of the initial consonant naturally coalesced with the following ε into ει : e. g. Φεργάζομαι ('work,' see p. 68), imp. ἐΦεργαζόμην : (σ)έρπω (Latin *serpo*), ἐ-σερπον, ἐ-ερπον *Fελίσσω* (*volvo*), ἐ-Φέλισσον¹.

(b) Syllabic augment before a vowel in ἑαδον (ἀνδάνω), ἑώθουν (ἀθέω), ἑωνούμην (ῶνεομαι), etc.² Thus ἀνδάνω=σΦανδάνω (Latin *suavis*, cp. the Homeric form εναδε); ὕνεομαι=Φωνέομαι (Latin *vendo*). The loss of the consonant was perhaps in the first instance compensated for by lengthening the preceding vowel, i. e. the augment itself, whence such forms as Epic ἡείδη=ε-Φείδη (root *vid-*) : but afterwards the reverse process took place and the following vowel was lengthened, whence such forms as ε-ήνδανον, ε-φνοχέει (Homer), ε-ώρων (root *Fop-*, cp. Latin *ver-eor*), εᾶλων, apparently with a 'double augment.' [Two exactly similar processes of compensation for the loss of *F(v)* are seen in the forms βασιλῆ-ος, βασιλέ-ως, both representing βασιλέΦ-ος (stem βασιλευ-), see above, p. 118.]

(c) Doubling ρ after augment is generally owing to the fact that a consonant has fallen out before it; which consonant can

¹ Curtius ('Das Verbum,' I. pp. 121-126) examines fourteen words, in seven of which he traces the disappearance of *F*, in five that of σ.

² ἐ-άγ-ην, ἐάλην, ἐ-άλ-ων, ἐ-άνασσε (Alcaeus), ἐ-είπον, ἐ-έσσατο, ἐ-ηκε, ἐ-ώρων, ἀνέψγον, are other examples under this head. Most of the words referred to are discussed by Curtius in his 'Principles of Greek Etymology.'

sometimes be discovered by comparison with the kindred languages, e. g. in $\tilde{\epsilon}\rho\rho\epsilon\sigma\omega=\tilde{\epsilon}\text{-}\sigma\rho\epsilon\mathcal{F}\text{-}\sigma\omega$, Sanskrit **a-srav-a-m**, from root $\sigma\rho\omega$, Sanskrit **sru-**, $\tilde{\epsilon}\rho\rho\epsilon\pi\sigma\omega=\tilde{\epsilon}\text{-}\mathcal{F}\rho\epsilon\pi\text{-}\sigma\omega$ from a root $\mathcal{F}\rho\epsilon\pi$, the \mathcal{F} of which is seen in **καλα-νροψ**, $\tilde{\epsilon}\rho\rho\eta\xi\alpha=\tilde{\epsilon}\text{-}\mathcal{F}\rho\eta\xi\alpha$ (cp. *freg-i*). The Homeric forms $\tilde{\epsilon}\lambda\lambda\alpha\beta\epsilon$, $\tilde{\epsilon}\mu\mu\alpha\theta\epsilon$, $\tilde{\epsilon}\sigma\sigma\sigma\epsilon\sigma\alpha$ are perhaps due to the analogy of those already mentioned¹.

V. *The 'Thematic Vowel.'* In the ordinary conjugation of Greek verbs, the person-endings are not added directly to the stem, as in the conjugation of 'verbs in *-μι*' (e. g. $\dot{\epsilon}\sigma\text{-}\mu\epsilon\nu$, $\delta\acute{\iota}\text{-}\delta\sigma\tau\epsilon$): but between the pure verbal or tense stem and the inflection there intervenes (especially in Present and Strong Aorist) a vowel which appears as *o*, *ω* or *ε*—e. g. $\lambda\acute{\epsilon}\gamma\text{-}\omega=\lambda\acute{\epsilon}\gamma\text{-}o\text{-}\mu\iota$ or $\lambda\acute{\epsilon}\gamma\text{-}\omega\text{-}\mu\iota$, $\lambda\acute{\epsilon}\gamma\text{-}o\text{-}\mu\epsilon\nu$, $\lambda\acute{\epsilon}\gamma\text{-}o\text{-}\nu\tau\iota$ (Doric for $\lambda\acute{\epsilon}\gamma\omega\nu\tau\iota$), $\tilde{\epsilon}\lambda\acute{\epsilon}\gamma\text{-}\epsilon\text{-}s$, etc. In Latin it appears as *o*, *i*, *u*—*leg-o* (= *leg-o-mi*), *leg-i-mus*, *leg-u-nt*; and perhaps as *e*, *i* in Noun declension *ped-e-m*, *homin-i-bus* (see however p. 116).

The nature of this vowel has been much disputed. Bopp (Comp. Gram. § 495) regarded it as a pronominal element 'through which the action or quality, which is expressed in the root *in abstracto*, becomes something concrete—e. g. the expression of the idea "to love" becomes the expression of the person "who loves."'

Curtius in his 'Tempora und Modi' (1846) maintained that this vowel is a purely phonetic element, or, as it was called, a 'connecting vowel,' a device of language to render easier the pronunciation of two contiguous sounds—as e. g. in the forms $\beta\rho\epsilon\mu\text{-}\acute{\epsilon}\text{-}\tau\eta\varsigma$, $\nu\epsilon\phi\epsilon\lambda\eta\gamma\epsilon\rho\text{-}\acute{\epsilon}\text{-}\tau\eta\varsigma$, $\gamma\epsilon\nu\text{-}\acute{\epsilon}\text{-}\tau\eta\varsigma$, *gen-i-tor*, Sanskrit **ján-i-tā**; $\phi\acute{\epsilon}\rho\text{-}\acute{\epsilon}\text{-}\tau\rho\sigma\omega$ beside $\phi\acute{\epsilon}\rho\tau\rho\sigma\omega$; Sanskrit **tup-i-tas** beside **τυπτό-s**; in such noun forms as *homin-i-bus*; and in verb forms like $\lambda\acute{\epsilon}\gamma\text{-}o\text{-}\mu\epsilon\nu$, $\pi\epsilon\iota\theta\text{-}\acute{\epsilon}\text{-}\mu\epsilon\theta\alpha$. In all these forms the pronunciation is no doubt rendered easier by the insertion of a vowel; while forms like $\tau\upsilon\pi\tau\text{-}\mu\epsilon\nu$, $\pi\iota\theta\text{-}\sigma\theta\epsilon$ could hardly be pronounced at all without it: and thus the principle of euphony seems to coincide with the effort to attain clearness; for the direct addition of person-endings to consonant-stems could not have been consistently carried out without the elision or modification of important

¹ See Monro, Hom. Gr. § 67.

Elements of
Verb inflec-
tion.

The thematic
Vowel.

Various
theories of
its origin.

it is a 'con-
necting
Vowel.'

Theory that
it is a 'con-
necting
Vowel.'

consonants (e. g. the *m* or *s* of first or second personal pronoun), and consequent obscurity of meaning where clearness was all-important.

This theory of a ‘connecting vowel’ has much at first sight to recommend it: for it accounts, by a sufficiently natural explanation, for a large number of the phenomena to which it is applied in Greek and Latin. It is not, however, borne out by the phenomena of verb-conjugation in Sanskrit¹: and it has now been abandoned by Curtius himself, who, in his work ‘Das Verbum der Griechischen Sprache,’ explains the vowel in question as being ‘thematic,’ i. e. a suffix to or increase of the stem or ‘theme’ previous to the reception of inflections; thus virtually returning to the theory originally propounded by Bopp (above, p. 165)². Instead of the person-endings being attached directly, for example, to the root *ag*, a nominal stem *aga* is formed from this root by addition of the pronominal suffix *a* (an addition which, in the early stages of word-formation, has the same ‘attributive’ force as an adjective or pronoun with a substantive has in a more developed stage of language, e. g. *ag-a*, Greek *ἄγ-ό(-ς)*: root *ag* :: *οὐτός* ó *ἀνήρ* : *ἀνίρηρ*); and this stem *aga* is combined as a *verbal* stem with *ta*, (*ti*), the sign of 3 sing. (*aga-ti* = *ἄγει*, Latin *agi-t*), just as in its capacity of *nominal* stem it is combined with the demonstrative element *s(a)*, the sign of nom. sing. (*aga-s* = *ἄγο-ς*). So *ag-mas*, a conceivable 1 plur. form, would stand to *aga-mas* (*ἄγο-μες*, *agi-mus*), much as the Latin nominal-stem *ag-men* might stand to a conceivable form *agi-men* on the analogy of *regi-men*. These *a*-stems had in course of time so overgrown the earlier stratum, so to speak, of forms which attached the person-endings directly

¹ E.g. in verbs of the ‘Tud’ class of verbal bases ending in अ, a, the accent always falls on the a added to the root; thus, base तुद्, tud, to strike, 3 sing. तुदति, tud-á-ti. This stress is against the vowel being an unmeaning phonetic adjunct: and so indeed is the employment of अ, a, the strongest and fullest of all the vowel sounds.

In one sense, of course, it is a ‘connecting’ (or perhaps we should rather say ‘intermediate’) vowel, as coming between the original stem or root and the terminations.

² ‘Das Verbum,’ I. p. 14 (p. 9 Engl. transl.).

to the root, that they became the rule of conjugation, the others remaining as a group of more or less exceptional and anomalous forms (in the conjugation of verbs in *-μι*).

With this increase of verbal stems by *a* Curtius would class the addition of the suffixes *na*, *nu* (e. g. in *σκιδ-να-μεν*, *δεικ-νυ-μεν*), which a comparison of the cognate languages shows to have been a very early feature of Indo-European word-formation; *na*, *nu* being ‘thematic,’ inasmuch as they are suffixes used to form ‘themes’ from roots. But this group of verbs belongs practically to the ‘non-thematic’ conjugation of verbs in *-μι*; and the term ‘thematic’ is generally restricted to those verb-forms whose stem receives the addition of the ‘thematic vowel’ properly so called—*ε* or *ο* in Greek, *o*, *i*, or *u* in Latin.

CLASSIFICATION OF VERBS.

A. Latin :—

The traditional classification into four ‘Conjugations,’ according to the vowel preceding *-re* in the infinitive Mood, establishes, by a happy instinct rather than upon any scientific principles, a tolerably complete classification, upon the same principle as that already applied to nouns (pp. 108, 109), viz. according to the final or ‘characteristic’ letters of the stem. The Latin Grammar gives us under its four heads :—

1. Vowel-stems in *ā-* (*amā-*).
2. Vowel-stems in *ē-* (*monē-*).
3. Consonant-stems and stems in *ī-* *ū-* semivowel (*reg-o*, *cap-i-o*, *tribu-o*).
4. Vowel-stems in *ī-* (*audī-*).

This division may be retained, but simplified into the broad distinction, already drawn in case of nouns, between (a) *consonant-stems* (including *i-*, *u-* semivowel), i. e. the ‘3rd conjugation,’ and (b) *vowel-stems*, i. e. the 1st, 2nd, and 4th ‘conjugations.’ The fluctuating forms of tenses may be considered separately under the different ‘tense-stems.’

B. Greek :—

The traditional classification of Greek verbs into verbs in *-ω*, In Greek. contracted verbs (in *-ᾶ*), and verbs in *-μι*, though in itself far

from scientific, may be to a certain extent utilised as the basis of philological analysis. The $-\omega$ of 1 sing. represents, as we have seen, the thematic vowel, which is a distinctive feature of the ordinary conjugation of verbs: while the verbs in $-\mu\iota$ stand apart as a form of conjugation, rarer, and for several reasons presumably older, than that in ordinary use. In these verbs, for example, (1) the pronouns which form the person-endings are less obliterated, and are added directly to the stem ($\epsilon\sigma\mu\acute{e}v$, $\delta\acute{i}\deltao\tau\epsilon$) without the intervention of a thematic vowel; (2) this form predominates in Sanskrit, and is more frequent in the oldest dialects of Greek; (3) the verbs in $-\mu\iota$ contain the most elementary roots and denote the simplest ideas ‘to be,’ ‘to give,’ etc. Putting these then aside as one form of conjugation, we may set on the other hand the conjugation of all other verbs (treating the fluctuating forms of tenses under the head of Tense-formation), dividing these according to the final letter of the Present-stem (exclusive of the thematic vowel). Thus we have

I. Verbs in Ω.

A. *Vowel-stems.*

1. Uncontracted, $\lambda\acute{u}\omega$.
2. Contracted, $\tau\mu\acute{a}\omega$, $\pi\omega\acute{e}\omega$, $\delta\omega\lambda\acute{o}\omega$.

B. *Consonant-stems.*

1. Guttural, $\pi\lambda\acute{e}k\omega$, $\ddot{\alpha}g\omega$, $\mu\acute{a}chomai$.
2. Dental, $\psi\acute{e}v\delta-o\muai$, $\pi\acute{e}i\theta\omega$, $\kappa\omega\acute{m}\zeta\omega$.
3. Labial, $\pi\acute{e}mu\pi\omega$, $\lambda\acute{e}i\pi\omega$, $\tau\mu\acute{e}\phi\omega$, $\tau\mu\acute{e}\beta\omega$.
4. Liquid, $\delta\acute{e}p\omega$, $\dot{\alpha}gg\acute{e}\lambda\lambda\omega$, $\delta\acute{e}\mu\omega$, $\phi\theta\acute{e}v\omega$.

II. Verbs in MI.

1. Inflections of the Present joined directly to stem: $\phi\eta\mu\acute{i}$.
2. Present stem formed by adding $\nu\nu$, νa to the pure stem; $\delta\acute{e}ik\nu\mu\iota$, $\sigma\kappa\acute{e}\delta\nu\eta\mu\iota$. (These verbs belong to this conjugation only in respect of the inflection of the Present stem.)

This 2nd principal Conjugation (verbs in $-\mu\iota$) differs from the 1st (verbs in $-\omega$) only in the inflection of the Present and Strong Aorist stems: and here the basis of distinction is the

presence or absence of the 'thematic vowel,' a distinction which appears in the same manner in Sanskrit, e. g. ás-mi, bhar-ā-mi, compared with ἔσ-μι, φέρ-ω(μι). The inflections of persons themselves are not distinct in the two classes, except so far as the -μι verbs retain a fuller and less impaired type of the person-endings—especially in their 'primary form' (see above, p. 161)—and offer greater facilities for tracing the origin of these inflections.

I. Person-endings (Active).

1 Sing. : Sanskrit -mi, Greek -μι, from 1st pers. pronominal stem *ma* (weakened as in *mi-hi*, and German *mir*). Secondary 1 Sing. form : Sanskrit -m, Greek -ν, of imperf. and 2 aor. The full termination remains in pres. indic. act. of 'verbs in -μι'; in certain Homeric conjunctive forms, ἔθέλω-μι, εἴπωμι, etc.; and in optative forms, τύπτοι-μι, τύψαι-μι. In Latin it appears as -m in two present tenses indic. *sum* and *inquam*, and in the terminations of 1 sing. imp. and plup. indic. and all subjunctive tenses throughout; and in fut. indic. of consonant and ī- verbs. It remains also in English *am*, German *bin*.

1 Plural : Sanskrit -mas, Greek -μες (Doric), Latin -mus. Person-endings.

Two explanations (or rather, guesses at explanation) are given 1 Plur. for this form, (1) that it = *m+as* of plural nom. (as in πόδ-ες, *pad-as*) : (2) that it = *ma-si*, i. e. 1st + 2nd pers. pron., so that 'we' = 'I + thou.' A form -masi is actually found in Vedic Sanskrit. The ordinary -μεν of Attic Greek perhaps arises from -μες by loss of *s*, and subsequent addition of *v*.

1 Dual : Sanskrit -vas, a variation of nom. plur. -mas : cp. vayám, nom. pl. of 1st pers. pronoun (p. 144). In Greek the 1 pers. plur. of active forms serves as nom. dual. Lithuanian retains -va, e. g. és-va = (*a*s)-vas, 1 pers. dual of Sanskrit as-mi (*sum*).

2 Sing. The 2 pers. pronominal element *ta* (see p. 145), or 2 Sing. by loss of *v* sound *ta*, appears in Indo-European inflection with both consonant and vowel weakened, i. e. *t* by aspiration to *th* or *dh*, or by weakening to *s* (p. 78) and *a* weakened to *i*. The series of possible forms, then, of this suffix is -ta, -tha, -thi (*dhi*), -si, -s. Of these the last two are most generally found,

Person-endings.

as primary and secondary forms respectively; thus Sanskrit has in pres. indic. -*si*, in imperfect -*s*; Greek -*σι* (as in ἔσ-σι, Ionic for εῖ) and -*s* (ἔφερε-*s*). The ordinary termination in -*εις* is variously explained. The primary form is admitted to be e. g. φέρε-*σι*, whence, by simple loss of final *i*, comes the Doric form in -*εις*, e. g. συρίσδεις (Theocr. i. 3), ἀμέλγεις (iv. 3); just as τιθη-*σι* became τιθης. Some hold φέρεις to arise from raising -*εις* in compensation for the loss of *i*, the changes being φέρε-*σι*, φέρεις, φέρεις. Others (as Curtius¹) make φέρει-*σι* the middle step, regarding the first *i* as an 'anticipatory' sound, an echo of the following *i* of the termination; cp. the subj. forms φέρης, φέρη, where (says Curtius) there is no other possible explanation of the *i* subscriptum. Others (as Schleicher) regard the *i* in φέρεις as thrown back from φέρεσι (as e. g. in μέλαινα=μελανγά, φαινω=φαν-γω). In Latin *es*=*es-si* (ἐστι), *ēs* (*edo*)=*ed-si*, *legis*=*lege-si*. The original quantity seems to have been *legīs*: and as we know that *i*, *ei* are often interchanged, we may assume *legeis*=Greek λέγεις, and accountable for by whatever interpretation we give to the latter. It is worth noticing that in Boeotian Greek (where ει becomes *i*) λέγīs, λέγī are the regular forms.

Changes
of 2 sing.
imper. -θι.

The imperative 2 pers. suffix -*θι* (=Sanskrit -*dhi*) is an older form, commoner in Epic dialect (τέτλα-θι, δίδω-θι, ὅρνυ-θι, etc.), but surviving in Attic forms, like γνῶ-θι, ἵσ-θι=ἔσ-θι from stem ε- or *f*ιθ-θι from stem *f*ιδ (δ assimilated, p. 74), ἵ-θι, στῆ-θι, and 1 aor. pass. τράπη-θι, τύφθη-τι (by dissimilation, p. 79). In ordinary Greek this termination is changed in various ways:—

(a.) The vowel is dropped, and θ changed into the sibilant, whence δός, θές, σχές=δό-θι, σχέ-θι.

(b.) θ is dropped, and the preceding vowel lengthened, whence ἵστη (ἵστα-θι), δίδου (δίδο-θι), δείκνυ (δείκνυ-θι).

(c.) In 2 sing. imper. act. of ordinary conjugation, the termination is lost altogether, and the final -*ε* of τύπτ-ε, etc. is the thematic vowel. In 1 aor. imper., instead of an analogous λῦσα or λῦσε, we find λῦσον; which Curtius² explains (after Giese,

¹ 'Das Verbum,' pp. 201-205 (1st edition); pp. 139-142 Engl. transl.

² 'Das Verbum,' II. p. 265 (p. 450 Engl. transl.).

Aeol. Dial. p. 110) as the result of a nasal after sound, dulling Person-endings. *a* into *o*. But nothing certain is known about this form.

In Latin the termination *-dhi* of imperative has disappeared altogether, leaving the bare stem (or stem + connecting vowel), as *i*, *amā*, *es*, *curre*.

The oldest and least corrupt form of this inflection (*-ta*, *-tha*) is retained in the perfect-stem, e. g. Sanskrit *dadi-tha*=Latin *dedisti*; Sanskrit *vēt-tha* (stem *vid-*)=Greek *oīσθα* (stem *Fiδ*, raised to *Fouδ-* as Sanskrit *vid* to *vēd*: *oīδ-θa* becomes by dissimilation *oī-θa*). In *oīσθa*, *ησθa* the *σ* preceding *θa* is satisfactorily accounted for as part of the stem. But there are a number of other instances (chiefly in the Epic dialect) of *-σθa* as 2 sing. termination, where no such account of *σ* is possible. These are thus enumerated by Curtius ('Das Verbum,' 2 Sing. form *-σθa*.
p. 50; English Transl. pp. 34, 35):—

(a) Twelve Homeric subjunctives: *ἐθέλησθa* (Il. i. 554, and fifteen other passages), *εἴπησθa* (xx. 250, Od. xi. 224, xxii. 373), *βιλησθa* (Od. xii. 221), *βουλεύησθa* (Il. i. 99), *δηθύνησθa* (Od. xii. 121), *εῦδησθa* (viii. 445), *ἔχησθa* (Il. xix. 180), *ἴησθa* (x. 67), *πάθησθa* (xxiv. 551), *παρεξελάσησθa* (xxiii. 344), *πίησθa* (xxiv. 260), *σπένδησθa* (Od. iv. 591).

(b) Five Epic, four Aeolic, one Doric Present Indic., and one Future Indic.: *τίθησθa* (Od. ix. 404), *φῆσθa* (Il. xxi. 186), *διδοῖσθa* (Bekker *διδωσθa*, Il. xix. 270), *εῖσθa* (x. 450); *ἔχεισθa*, *φιλησθa* (Sappho), *ἐθέλεισθa* (Theocr. xxix. 4), *ποθόρησθa* (vi. 8), *χρῆσθa* (Megarian, in Arist. Ach. 778), *σχήσεισθa* (Hymn Cer. 366).

(c) Imperfect Indic.: (*ἡσθa*), *ἔφησθa* (Il. i. 397), *ἥεισθa* (Plato, Euth. 4, Tim. twenty-six in compounds), *ἥδησθa* (v. l. *ἥδεισθa*), Od. xix. 93, and Attic.

(d) Optative: *βάλοισθa* (Il. xv. 571), *κλαίοισθa* (xxiv. 619), *προφύγοισθa* (Od. xxii. 325), *εἴησθa* (Theognis).

Various explanations have been given of these forms:—

(1) Bopp suggested that they were due to a false analogy from *oīσθa*, *ησθa*, causing *-σθa* to be regarded as the termination. But we should expect to find the effects of such analogy either in *one* or *two* isolated cases, or carried to a much greater

Person-endings.

extent, as some hold to be the case with the Teutonic termination *-st* (e. g. German *bist*, *hast*, *gib-st*, cp. English *doest*).

This *st-* is held by some philologists (e. g. Schleicher, Comp. § 272) to arise by false analogy (such as that supposed by Bopp for *-σθa*) from the case of dental stems, where *t*, *d* became *s* before *-ti*, e. g. Gothic *vais-t* (stem *vit*)=Greek *Foισ-θa*; this *st-* being first applied to all perfect stems, and then extended to all 2 pers. sing. as in German and English. With this view Bopp's explanation of *-σθa* as given above would of course harmonise; the difference being that the analogy is more consistently and naturally carried out in the Teutonic than in the Greek forms.

(2) The view of the older grammarians, followed by Schleicher (§ 272) and others, is that these forms in *-σθa* are a later formation by the addition of *-ta* to the customary form ending in *s*, e. g. *εχεισ-θa*, *βιλοισ-θa*, etc. Language no doubt offers analogies to such a re-creation of a grammatical form by the fresh addition of an element, which is there already, but obscured (e. g. *τέου-s*, *μέου-s*, p. 143): and in any case the literary dialect of a nation is formed by the survival of the fittest among a number of spoken forms. It is therefore conceivable that this form in *-σθa* may have been one of such by-forms, holding its ground still in Homer before the introduction of writing, but then disappearing. Nor is it necessary that the explanation of Greek *-σθa* should be uniform with that of Latin *-sti* or Teutonic *-st*, if we suppose that the development in question took place *after* the separation of these different branches of the Indo-European family.

The original 2 sing. element, however, is perfectly recognisable, though weakened, in *εχεις*; and it is not easy to conceive any motive for the addition of *ta*. Moreover, the stage of word-change at which *ta=tva* had sunk to *s* (s) implies that this pronominal element was no longer recognisable in its earlier form; and it is probable that, granting the possibility of such repetition as is assumed, we should not find the repeated ending in so early a form.

(3) Another explanation connects it with the termination

-σαν of 3 pers. plur. (see below, p. 176) by referring it to the Person-endings. root *ες*: *-σθα* would then = *εσθα*, as *-σαν* in *εδοσαν=εσαν(τ)=erant*. The Latin perfect forms *vidi-sti*, *vidi-stis* (*estis*), and *vide-runt* (*sunt*) seem to bear out this view: and it is certainly difficult to lose sight of the similarity between the Latin *-sti* and Greek *-σθα*, though (as will be seen below) the analogy of the two forms is not certain—one interpretation making the *is* of e. g. *ded-is-ti* a tense suffix as in infin. *is-se*, and perhaps originally a part of the verb *sum*.

(4) Curtius, comparing the form *-σθα* with the other verb terminations in which we meet with the combination *σθ*, regards this *σθ* as the result of phonetic change from an original *ττ*. The terminations which exhibit *σθ* are—

1.	2 Sing. Act.	<i>-σθα</i> (<i>εφη-σθα</i>).
2.	1 Plur. Mid.	<i>-μεσθα</i> (ord. <i>-μεθα</i>).
3.	2 Plur. „	<i>-σθε.</i>
4.	2 Du. „	<i>-σθον.</i>
5.	3 Du. „	<i>-σθον.</i>
6.	3 Du. „	<i>-σθην.</i>
7.	3 Sing. „ Imper.	<i>-σθω.</i>
8.	3 Plur. „ Imper.	<i>-σθων.</i>
9.	3 Du. „ Imper.	<i>-σθων.</i>
10.	Infin. „	<i>-σθαι.</i>

Certain dialectic forms, e. g. *χρήστω*, *ελέστω=χρήσθω*, *ελέσθω* (Loerian), *ελεσται=ελέσθαι*, *ἄρεσται*, *χρήσται*, etc., seem to show that *θ* is not an original and necessary part of these terminations, but may arise from an original *τ*: while such forms as *ἀποφειπάθθω* (Cretan) seem to be a double dental sound, the first of which might become *σ* by dissimilation. Following up this clue, Curtius explains the Imperative middle forms (7, 8, 9) as arising from *ττ* which becomes by dissimilation *στ*, and finally, by the assimilating influence of *s* on a preceding tenuis, *σθ*. Thus *φάσθω=φά-τ-τω-(τ)*, the *τ-τω* being the 3 personal pronoun added *twice* for expression of middle voice. The Dual forms (5, 6) would arise in the same way, there being no original difference between dual and plural: and so would

Person-endings.

the 2 pers. forms $-\sigma\theta\epsilon$, $-\sigma\theta\omega$, the first τ in their case being the τ of 2 pers. pronominal stem *tva*. Thus for seven of the above forms (Nos. 3-9) the successive change $\tau\tau$, $\sigma\tau$, $\sigma\theta$ is established.

For 2 sing. $-\sigma\theta a$ the analogy of the parallel forms $-\sigma\theta\omega$, $-\sigma\tau\omega$, and $-\sigma\theta ai$, $-\sigma\tau ai$ suggests a parallel form $-\sigma\tau a$, corresponding to the Latin *-sti*; a correspondence which is further borne out by Gothic *saisô-st*, i. e. *sedisti* (the exact parallel to which would be a form *sesi-sti*, supposing it to exist). Assuming $\sigma\tau$ of $\sigma\tau a$ to arise, as in the other forms, from $\tau\tau$, this $\tau\tau$ may be due to ‘progressive assimilation’ from *tv* of the pronominal stem *tva* (as e. g. *τέτταρες*, cp. with Indo-European *katvaras*) ; and thus we have *tv*, $\tau\tau$, $\sigma\tau$, $\sigma\theta$ as the scale of change from *tva* to $\sigma\theta a$. $\epsilon\phi\eta\sigma\theta a$ would thus represent an earlier $\epsilon\phi\eta\tau\tau a$, just as $\phi\alpha\sigma\theta\omega$ represents $\phi\alpha\tau\tau\omega$.

[Where the *data* are so few and uncertain as in the case of this 2 sing. $-\sigma\theta a$ it is difficult to pronounce positively in favour of one among several conflicting theories. The high authority of Curtius claims attention to his view, and it is perhaps based upon wider induction from observed facts than some other views : but Curtius, like others, has to depend upon assumptions at one stage or other of his argument, and our decision will after all be only an estimate of the comparative probability of unverifiable hypotheses. In such cases it seems better simply to call attention to the known facts, and to the most plausible theories that are based upon them, without attempting to lay down that one is right and all the others wrong.]

2 Plur.

2 Plural. If 1 plur. $-mas=ma-si$, i. e. *ma-tva*, ‘I + thou,’ we should expect in 2 plur. a form $=tva-tva$, expressing ‘thou + thou.’ No such direct evidence as the Vedic *-masi* of 1 plur. is forthcoming ; Sanskrit has only *-tha* (primary) and *-ta* (secondary), as in *bhára-tha* pres., *abhara-ta* imperf., while Greek in all tenses has the weakened form *-τε*. But Latin has *-tis*, which may represent *-tas*, i. e. *ta-si* (‘thou + thou’) : and Sanskrit in the dual retains a stronger form *thas*. There is therefore evidence for an original *-tas* or *-thas*, which is susceptible of either of the two explanations offered for 1 plur. *-mas* (p. 170).

The Latin imper. form *-tote*, however, and Vedic Sanskrit *-tāt*, Person-endings seem to point to a doubling of the 2 pers. prounoun-stem.

2 *Dual*: Sanskrit *-thas* primary, *-tam* secoudary. Greek *-τον* throughout, perhaps formed like *-μεν* of 1 plur. (p. 169) by addition of *-ν*, or corresponding to Sanskrit *-tam*, which *may* be (as explained by Pott)=*tv-am*, *-am* being an appendage as in *aham*, *vayam* (see p. 144, and below on 3 dual).

3 *Sing.* The demonstrative pronominal element *ta-* (in *τόν*, 3 Sing. *οὐ-το-ς*, *is-to*, etc., see p. 150) is weakened to *ti-*; Sanskrit *as-ti*, Greek *ἐσ-τί*, *τίθη-τι* (Doric). This *τι* becomes *-σι* in *τίθη-σι*, *φησί*, etc., by the usual assibilation of *τ* before *ι* (as in *πλοῦτος*, *πλούσιος*; *ἐνιαυτός*, *ἐνιαύσιος*)¹. *-σι* is also retained in a number of conjunctive forms in Homer—*εθέλησι*, *εἴπησι*, *πάθησι*, etc., and in a few used by later writers—e. g. *πιμπλῆσι* Hesiod, Op. 301, *ἴησι* Theognis, *ὑποπιμπρῆσι* Arist. Lys. 348, *օρσῆσι* Apoll. Rhod. iii. 1039: so *παραφθαίησι*, optat., in Il. x. 346.

The ordinary 3 sing. termination in *-ει* is sometimes explained as arising e.g. from *φέρε-σι*=original *φέρε-τι* by loss of *σ* between two vowels. But it seems better to explain it on the analogy of 2 sing. in *-εις*, by one or other of the processes mentioned on p. 170, *φέρε-τι* becoming *φέρειτ*, and *τ* then falling off, as an inadmissible final sound. This would throw light on the original quantity of such forms as *legīt*, *regīt* in Latin, if we suppose an original *lege-ti*, *legeit*, *legīt*. In any case the final *-t* of Latin 3 sing. is the secondary form of *-ti*; Latin thus retaining the inflection consistently in all tenses, while Greek has lost it from the ordinary conjugation of verbs, except in *-τω* of imper., Latin *-tō*. Oscan has *-tūd*, and Vedic Sanskrit *-tāt* (see above on 2 plural), which point to a repetition of the pronominal element. [The *t* of 3 sing. inflection survives as *s* or *th* in English, *he carries, carrieth*; as *t* in German *ist*.]

3 *Plur.* : Sanskrit *-nti*, *-n*; Greek *-ντι* (Doric), *-ν*; Latin 3 Plur. *-nt*.

Thus, primary, *bharanti*, *φέροντι*, *ferunt*.

secondary, *abharan*, *ἐφέρον*, *ferebant*.

¹ See above, ch. iv. p. 78.

Person-endings.

In Greek the termination appears only in Doric *ἐντί*, *φέροντι*, etc. In Attic Greek *τ* becomes *σ*, *ν* disappears, and the vowel is raised; so *φέρ-ο-ντι* becomes *φέρουσι*. An old inscription of Tegea (Arcadian) gives the forms *κρίνωσι*, *κελεύωσι*, which appear to be a transition stage between *-οντι* and *-ουσι*. The Lesbian dialect has *σι* with *ι* before it in place of *ν*; *φαισι*, *κρύπτοισι*, etc.: so *φορέοισι* in Theocr. xxviii. 11 (an Aeolic poem). Latin retains throughout the stronger form (see above, p. 17).

The imperative 3 plur. in both Greek and Latin exhibits peculiar forms: *φερ-ό-ντω-ν* (Doric *φερόντω*, Latin *ferunto*) seems to = Vedic Sanskrit *-ntāt* (*t* lost and *ν* added), and to correspond to Sanskrit *-ntu* of 3 plur. imper. The other Greek form *-τω-σαν* is a later formation, unknown to Homer: it is e.g. 3 sing. *φερέτω* + *σαν* = *σαντ*, the remains of 3 plur. of *ἐσμι* (*asmi*), *asanti* (p. 17). This *-σαν* is also used to form a later 3 plur. opt. *ἰσταιη-σαν*, and appears in its primary form in 3 plur. perf. aet., e.g. *ἴστασι* = *fuð-σαντι*.

[There is no evidence here for a formation analogous to that assumed for 1 and 2 plur., so that ‘*they*’ = ‘*he+he*:’ and all that we can say is that *-ti* probably represents the demonstrative pronoun *-ta* (as in 3 sing.), and that the element *an* or *n* in some way or other may give the notion of plurality.]

3 Dual.

3 Dual: Sanskrit has primary *-tas*, secondary *-tam*; Greek *-τον* is primary = *-ta(s)* + *ν*; *-την* secondary = *-tām*. Thus *bhārata-**tas* (pres.) = *φερτον*, *ábharatām* (imp.) = *ἐφερέ-την*; *-των* of 3 dual imper. also = *-tām*, and so = *-την*.

[*-tas* might be explained as = *-ta*, *-sa* (ep. *-thas* of 2 plur., p. 174); *-tam* may be (as Pott) = *ta+am*, a pronominal appendage (see above on 2 dual).]

Middle and Passive Inflections.

Middle or
Reflexive
forms in
relation to
Passive.

The name ‘Middle’ voice, as applied to the Conjugation of Greek Verbs, conveys no notion of the real distinction of Middle forms, viz. their *reflexive* character, expressing the effect of the action of the verb upon the subject and not (as in the ‘Active’ forms) upon an external object. The term ‘Middle,’ implying something between the Active and Passive Voices, would naturally suggest that these latter are the original, the

Middle a later development of language: whereas it has been established with tolerable certainty that language has generally developed the Passive from the Middle Voice in Verbs. In Sanskrit, for example, we find belonging to each tense two distinct sets of verbal terminations, corresponding (as we shall see) to the Active and Middle forms of Greek; but both *active*, and sometimes applied indiscriminately to transitive verbs. These are called respectively (1) ‘*Parasmai-pada*,’ ‘word¹ directed to another,’ because the action passes (*parasmai*) to another object (cp. the term ‘transitive’ from *transire*); and (2) ‘*Ātmanē-pada*,’ ‘word directed to oneself,’ because the action is restricted *ātmanē*, ‘to oneself’ (dat. sing. of *ātman*, ‘self’). These two schemes of terminations partly answer to the ‘active’ and ‘middle’ voice of Greek Grammar. Thus, when a verb is conjugated in both *padas*, ‘Ātmane-pada’ does not alter the idea expressed by the root, but directs the action in some way towards the agent or subject: e.g. *pacati*, ‘he cooks,’ *pacate*, ‘he cooks for himself;’ *namati*, ‘he bends,’ *namate*, ‘he bends himself.’

Passive verbs in Sanskrit are conjugated in Ātmane-pada. But while in Greek and Latin a verb in the Passive voice corresponds in form to the same verb in the Active voice, the terminations only being changed; in Sanskrit a passive verb is a separate derivative from the root (as e.g. causal desiderative or frequentative verbs are) formed on one invariable principle without any necessary connection with the conjugational structure of the active verb, but using the Ātmane-pada terminations, e.g. *bhár-a-ti* (*φέρει*), *bhár-a-te* (*φέρεται*, middle); but *bhri-ya-te* (*φέρεται*, pass.) by insertion of the stem suffix *ya*².

The evidence of the Sanskrit Verb, in addition to the obvious fact that in Latin but one form serves for Middle and Passive, while in Greek (though there are some special Passive forms)

¹ *Pada* = an inflected word as opposed to the uninflected root. The term refers only to a scheme of terminations, and does not necessarily carry with it the associations of ‘voice’ in the ordinary grammatical use of that term.

² See Monier Williams’ ‘Sanskrit Grammar,’ §§ 243 b, 461.

the same form serves for both in certain tenses, supports the conclusion that the original distinction is between ‘Active’ and ‘Reflexive’ terminations; but we may speak of these later under the currently accepted terms of ‘Middle’ (or Medio-Passive) inflections.

Middle
(Passive)
forms in
Latin.

The Middle or so-called ‘Passive’ Inflections of the Latin verb may be considered first, not as being older, but as (according to one commonly received theory of their formation) exhibiting most distinctly this reflexive character. This theory accounts for the characteristic *r* of passive terminations by the addition to the Active forms of the reflexive pronoun *se*, the *s* of which passes by the euphonic laws of Latin into *r*. Thus to take the Present Tense :—

- 1 Sing.: *amo-se, amore, amor.*
- 2 Sing.: *amasi-se, amarise, amaris* (or possibly, by introduction of a connecting vowel, from the ordinary *amas, amas-u-se, amasus, amaris*. See on 3 sing. and cp. a form *utarus=utaris* on an inscription).
- 3 Sing.: *amat-u-se, amatur* (*u* being perhaps a connecting vowel).

- 1 Plur.: *amamu(s)-se, amamur* (or ? *amamus-u-se, amamur-ure, amamur*).

2 Plur.: *amamini* (sc. *estis*) is really a nom. plur. of a participle formation analogous to Greek *-μενο-*, the singular of which is found in Old Latin for 2 and 3 pers. imper. *praefamino, progredimino* (i. e. *praefaminos sis*). The formation of *amamini* (*estis*) is therefore precisely analogous to that of the perf. pass. *amatus sum, es, est, etc.* The form *amaminor* (2 plur. imper.) given in grammars is probably due to false analogy, *r* being added as the characteristic passive sign: and is supposed by some to have had no existence except with the grammarians.

- 3 Plur.: *amant-u-se, amantur.*

So far as the Latin language is concerned this explanation might hold good, in default of a better: but it is somewhat shaken by the existence in Keltic of passive forms in *-r*, which by the euphonic laws of that language could not arise from *s*. A theory which fails to satisfy the only available test of the

comparative method does not rest on firm ground : and the *-r* of Latin passive forms still awaits explanation.

The Middle Inflections in Greek have more affinity with those of Sanskrit, and the explanations offered of both rest upon much less sure ground than that given of the Latin medio-passive. Like the active person-endings they are capable of a primary and a secondary form (*-μαι*, *-σαι*, *-ται*, etc., pres. *-μην*, *-σο*, *-το*, etc. imperf.) ; and these are obviously formed by some increase of or addition to the corresponding active terminations. But as to what the precise connection is, ‘Grammatici certant et adhuc sub judice lis est.’ I give some of the solutions that have been proposed : but the question cannot be determined with any certainty.

1. That in *-μαι*, *-σαι*, *-ται*, etc. we have a similar formation to that of the Latin Passive—viz. the addition of the reflexive pronoun (*-sva*) to the pronominal elements from which the active person-endings arise. This *-sva*, Greek *-σε*, *-σε* or *-σι*, would if thus suffixed give such forms as *ma-si*, *sa-si*, *ta-si*, *nta-si*, and the falling out of *s* between two vowels in Greek (p. 66) would leave the Greek *-μαι*, *-σαι*, *-ται*, *-νται*. The chief argument for this view, that it harmonises the apparently distinct formations in Latin and Greek, falls through if that of the Latin passive can no longer be regarded as even approximately certain. Most comparative grammarians uphold one of the two remaining theories, viz.—

2. That *-μαι*, *-σαι*, *-ται*, etc. are formed from the active voice by Vowel Intensification (see p. 53), *ai*, Sanskrit *ɛ*, being the natural raising or intensification of *i* to express a change of meaning. The objection to this view is that we find Vowel Intensification employed in the formation of stems, as an agent in Word Formation, but not in Inflection, which in all cases consists in the addition of suffixes.

3. That *-μαι*, *-σαι*, *-ται*, etc. are abbreviations from *ma-mi*, *sa-si*, *ta-ti*, etc., i. e. that language expressed the ‘reflection’ of the action upon the agent by adding the pronouns *twice over* to the verbal stem, once as object case and once as nominative. Against this view it is urged (1) that, if in the doubling

Middle and
Passive in-
flections in
Greek:
Theories of
their con-
nection with
Active
forms.

Middle
(Passive)
Inflections
in Greek.

of pronominal elements in the plural of active inflections (see above, p. 169) both elements remained, so to speak, in the *nominative* case (e.g. *mas=ego+tu*), it is inconsistent that precisely the same phenomenon in the middle voice should give the different result of *me (mīhi)+ego*. [But this difficulty is less, if we bear in mind that the formation of the active inflections may have taken place at a different and much earlier stage in the development of language. The same elements may have combined in different ways at different periods—in different strata or layers, so to speak, of word formation.] (2) that if *-μαι*, *-σαι*, *-ται* are explained in this way, we ought to find similar forms in the plural (*=mas-mas, thas-thas*, etc); (3) that while the dropping out of *s* and *t* supposed by this theory in 2 and 3 pers. may be justified by phonetic analogy, that of *m* in 1 pers. *ma(m)i* cannot be so justified. [It is, however, parallel to Sanskrit *bharē=bhar-a-mē* (*mai*) compared with *φέρ-o-μαι*.]

Upon the whole, this latter theory meets with most favour, being adopted by both Bopp and Schleicher, and now by Curtius, who in *Das Verbum* (p. 80) retracts the opposition which he offered to it in *Tempora und Modi*. We may therefore adopt it as *presumably* the correct account of the Greek middle inflections, or at any rate the best ‘working hypothesis’ for deducing an explanation of them; so far as such enquiries (which many philologists seem now inclined to pass by as unproductive) are an essential part of philology.

The middle Inflections of the Greek Verbs will then be as follows:—

1 *Sing.* : Primary form, *ma-mi, mai*, Greek *-μαι*, Sanskrit ē. [In Sanskrit the initial *m* disappears, and we find *bharē=bhar-a-mē=φέρομαι*.] Secondary *mam*, Greek *-μην* of imperf. mid. Sanskrit has ē as in primary form; *abharē=εφέρομην*.

2 *Sing.* : Primary form, *-sa-si, -sai*, Sanskrit *-se*. In Greek *-σαι* is retained in verbs in *-μι* and perf. tense; *ἴστα-σαι, τέτυψαι (π-σαι)*. Epic forms like *λιλαίεαι, δίξηαι* (Od. xi. 100), *δρηαι* (Od. xiv. 343) have only lost the initial *σ*; *-εαι* being contracted into *-ει*, as in *φέρει=φέρε(σ)αι*, or into *-η*, as in *φέρη*.

Secondary form *-sas, -sa*, Greek *-σο*, retained in imperf. of

-μι verbs (*ἐτίθεσθαι*) and plur. tense *ἐτέτνυψο* (*π-σο*). Epic forms with loss of σ only—*ἐμάρνω*, *παρίστω*, *ἔθεο*, etc.; cp. the forms *ἄρσο*, *δέξο*, *λέξο*, etc. In ordinary Greek ε(σ)ο becomes -ov, *ἔφέρον*=*ἔφέρεσθαι*: so in 2 aor. of -μι verbs, *ἔθον*, *ἔδον* and imper. *θοῦ*, *δοῦ*.

3 Sing.: Primary form, -ta-ti, -tai, Sanskrit -tē, Greek -ται retained throughout. Secondary, -ta-t, -ta, Greek -το (*ἔφέρετο*, Sanskrit a-bhara-ta). In the imperative we find -σθω, a form which recalls the -σθα of 2 sing. act., and other forms (see p. 172) and the explanation of which is equally uncertain. The most plausible suggestion is that it may arise from -ττω (representing -τω of 3 sing. imper. act. doubled), ττ becoming στ by dissimilation (p. 79), and then σθ under the influence of the spirant. See however, above, on -σθα of 2 sing. act.

In the Plural terminations it is still less easy to arrive at even a plausible suggestion for their origin: and for 1 and 2 plur. especially, such suggestions are but guesses.

1 Plur. Greek has -μεθα both as primary and secondary form, with a variety in -μεσθα, found in Homer and later poets, but not in Attic prose, and possibly a mere phonetic variation *metri gratia*; for in a majority of cases the form -μεθα would not scan. Others however see in -με-σθα the form -σθα of 2 sing. act.; and on Curtius' view that σθ here arises from tv, -μεσθα would represent ma-tva-i. Sanskrit has for primary form mahe, Zend maidē, which points to a primary form madhai, secondary -madha, whence Greek -μεθα. It is suggested that *madhai*=ma-tva(s)i, mata(s)i='I+thou, to thee' (the reflection of the action being in this case expressed by the repetition of one of the two elements 'I,' 'thou,' which make up the 1 plur. act.) This would make -μεθα=-μεσθα.

2 Plur. Greek has -σθε both as primary and secondary form. Sanskrit has -dhvē (primary), Vedic -dhvai and -dhvam (secondary, m being perhaps a later addition), a Vedic imper. in -dhva being found. s often disappears in Sanskrit before dh: hence we may infer an original -sdhvai, -sdhva, the Greek equivalents to which would be -σθθαι, -σθθε. This reconciles the Sanskrit and Greek forms, and Curtius' explanation of σθ as

Middle
(Passive)
Inflections.

arising from *ττ* (above, p. 173) presumably covers *sdh* also : but the origin of this termination also is uncertain. A similar suggestion to that given above for 1 plur. is made, viz. that *sdhvai, σθε=tva-tva-(tv)i*, ‘thou + thou, to thee.’

3 Plur. Sanskrit primary -*nte*, secondary -*nta*, corresponding to Greek -*νται*, -*ντο*, which in Homeric Greek are replaced by -*αται*, -*ατο*, generally after consonants and *i*, sometimes after *v*, *η*, *ω*, never after *a*¹. Assuming the original form to be *an-ta-ti*, the loss of the second *t* (due perhaps to dislike of excessive alliteration) leaves *antai*; and the further loss now of *a*, now of *u*, in the syllable *an* would leave either -*ntai* or *atai*. Both forms are found in Sanskrit; -*nte*, -*nta* in the first main conjugation corresponding to Greek verbs in -*ω* (*bhara-nte*, *abhara-nta=φέρονται, ἔφέροντο*), and *atē, ata* in the second (*chin-date, achindata*).

According to this view the *a* of -*αται*, -*ατο* is not a substitute for *v* (as might be thought from its occurrence after vowels in such forms as *βεβλήσται* parallel to *βέβληνται*), but an original component of the termination. Practically, however, in both Sanskrit and Homeric Greek -*ntē*, -*ate*, and -*νται*, -*αται*, are separate and corresponding forms, the latter being the non-thematic ending ; so that it is not incorrect to say that e. g. in *τετεύχαται, βεβλή-ατο*, the *a* ‘corresponds to’ the *v* of *πειθο-νται, ἔγενο-ντο*.

The imperative termination -*σθων* follows the analogy of other similar forms; -*σθω-σαν* being a later formation analogous to -*τω-σαν* of imperat. act. (see p. 176).

1 Dual: -*μεθον* must be a by-form of 1 plur. -*μεθα*, transferred perhaps by local usage, and with some reference to -*ον* of other dual forms, to the plural. An Aeolic form -*μεθεν* is also mentioned. [Sanskrit has *vahē=vahai* (primary), and *vahi=vaha* (secondary).]

2 and 3 Dual: -*σθον*, -*σθην*, and imperat. -*σθων* obviously correspond to the act. forms -*τον*, -*την*, -*των*, as -*σθω* of 3 sing.

¹ E. g. *τετεύχαται, ἔρηρέδατο, κατακείαται, γενοίατο, εἰρύαται, εἰρύνατο, βεβλήσται, δεδμήστατο*, etc.; and (with long vowel shortened before *a*—as often in New Ionic) *ἔσται, ἔστο, κέσται, κέστο*. See Curtius, ‘Das Verbum,’ I. pp. 92–7 (Engl. transl. pp. 64–7).

imperat. mid. to $-τω$ (see above, p. 181). In all these forms Middle (Passive) the change from τ to $σθ$ seems to carry with it the reflexive Inflections. meaning: for a possible explanation see above, p. 173, on $-σθα$ of 2 sing.

II. *Verb Inflection: Mood-signs.*

The function of signs of mood and their position in Verb Mood-signs. Inflection have already been noticed (p. 161). We have now to distinguish the signs for (a) 'Conjunctive,' (b) 'Optative' tenses: these two groups of tenses being included under the general term 'Subjunctive (Dependent or Hypothetical) Mood,' by which the supposition of a fact or action is distinguished from its direct statement in the 'Indicative Mood.'

(a) The special characteristic of the conjunctive forms in Classical Greek and Latin appears to be a long vowel ($ω$, $η$, $ā$, $ē$) preceding the termination. We find however in Homer a limited number of conjunctive forms¹, such as $ἴ-o-μεν$, $βλή-ε-ται$, $στή-o-μεν$, $φθί-ε-ται$, $ἄλ-ε-ται$ (conj. of $ἄλ-το$), in which a short vowel o , $ε$ (i. e. original $ā$) denotes the modal element: and the comparison of these with a conjunctive form occurring in Vedic Sanskrit (e. g. han-a-ti, indic. han-ti; as-a-ti, indic. as-ti, from asmi, sum), points to the conclusion that originally the conjunctive was distinguished from the indicative by the insertion or addition to the stem of $ā$ —in precisely the same way, externally, as the indicative with a thematic vowel from the primitive indicative, so that conj. as-a-ti : indic. as-ti :: indic. bhar-a-ti : indic. bharti, Latin fer-t(i). And as there is always a possibility that formations outwardly similar may have been originally one and the same, we may perhaps consider with Curtius that the thematic vowel $ā$ and the conjunctive suffix originally served the same purpose; and that as bhabha-ti, i. e. 'bearer he' (see above, p. 166), developed on the one hand the meaning of 'he is a bearer,' 'he bears,' so on the other hand it might develop the meaning 'he may be, or is to be, a bearer,' 'he is intended for bearing'—i. e. the force of a conjunctive. This however is speculation. The facts to be considered are (1) the highly probable fact that the conjunctive suffix was

¹ Curtius, 'Das Verbum,' II. p. 58 (Engl. transl. p. 313).

Mood-signs. originally *ă* (*o*, *ε*) ; (2) the certain fact that, with a few exceptions already mentioned, it appears as *ā* (*ω*, *η*, *ā*, *ē*). Now in the ordinary conjugation of Greek verbs this long vowel seems naturally accounted for by the combination of the mood-sign with the ‘thematic’ vowel at the end of the stem; these two uses of the vowel *a*, whether originally identical or not, having of course become distinct with the development of verb-forms. But in the conjugation of verbs in *-μι* no thematic vowel is used (p. 168–9), and here the long vowel is most plausibly explained as the result of analogy, *ω*, *η* being regarded as the characteristic mood-signs. Thus from *εἰμί=ἐστι* we have in conjunctive:—

- 1 Sing. *ἔστω-μι*, *ἔσω*, *ἔω*, *ὦ*,
- 2 „ *ἔστη-σι*, *ἔστης*, *ἔγης*, *ῆς*,
- 3 „ *ἔστη-τι*, *ἔγτι*, *ἔστι*, *ῆτι*,
- 3 Plur. *ἔστη-ντι*, *ἔῶντι* (Dor.), *ἔωσι*, *ῶσι*,

following the analogy of the ordinary conjugation.

In Latin.

In Latin, the conjunctive suffix *ā*, answering to Greek *ω*, *η*, appears in the pres. subj. of 2nd, 3rd, and 4th conjugations (consonant and *ē* and *i* stems); e.g. *mone-ā-m*, *leg-ā-mus* (=λέγωμες), *leg-ā-tis* (=λέγητε), *audi-ā-m*. In *a*-stems (1st conjug.) the mood sign is *ē* (*am-e-m*) and a few verbs have *i*, e.g. *sim*, *nolim*, *possim*, *edim*, *duim*: but this *ē* and *i* are both probably optative forms (see below, p. 187). The imperf. and plup. subj. in all verbs have *ē* as mood-sign; *amar-ē-mus*, *regisse-mus*. The perfect has originally *i*, which however (from confusion with the completed future indic.) often becomes *i* in dactylic poetry: just as in the completed or 2nd fut. indic. *i* is often treated as *i*. Thus we find—

- | | |
|-----------------|--|
| Perf. Subj. | <i>-erī-</i> : <i>dederītis</i> (Ennius), <i>fuerīs</i> (Horace), <i>respuerīs</i> (Tib.),
<i>dederīs</i> , <i>crediderīs</i> (Ovid). |
| | <i>-erī-</i> : <i>egeūmus</i> , <i>respererīs</i> (Virg.), <i>dixerīs</i> (Hor. in hexameters <i>suspexerīs</i>). |
| 2nd Fut. Indic. | <i>-erī-</i> : <i>viderīmus</i> (Lucretius), <i>dixerītis</i> (Ovid), (Virg. Georg. iv. 59). |
| | <i>-erī-</i> : <i>dederītis</i> , <i>transierītis</i> , etc. (Ovid), <i>fecerīmus</i> (Catullus),
<i>dederīs</i> , <i>miscerīs</i> , etc. (Hor. in hex.), <i>dederīs</i> (freq. in Prop. and Ovid). |

[As in Latin the conjunctive and optative coalesce into one

subjunctive Mood, we might expect a mixture of conj. and Mood-signs. opt., forms such as we actually find. Roby (Lat. Gr. i. § 593) suggests that the proper Latin mood-suffix was *i* (seen in the Greek optative), which contracted with a preceding *ā* to *ē* e. g. *ama-s*, *ama-i-s*, *amēs*; but as *i* suffixed to the present indic. of any other than *ā* verbs would give the same form when contracted, an *ā* (seen in Greek conj.) was substituted. This, however, would not be true of consonant stems proper, where there was no opportunity for contraction, e. g. *leg-o*, *le-gi-m*: and it would have to be supposed that the *ā* form was extended by analogy to these. On the whole it seems best to admit the confusion of forms, and explain each separately, without reducing them to uniformity.]

(b) Optative. The suffix is *ya* (retained in *λέγο-ιε-ν*), usually raised to *yā*, or *i*: in Greek, *ιε*, *η*, *ι*. The verbs in *-μι* retain the longer form of the suffix (*η*) in the Active Voice, the shorter (*i*) in the Middle, e. g. :—

1 Sing.	<i>διδο-ίη-ν</i>	compared with	<i>διδο-ί-μην</i>
2 „	<i>διδο-ίη-ς</i>	„	<i>διδο-ΐ-(σ)o</i>
2 „	<i>διδο-ίη</i>	„	<i>διδο-ΐ-το</i>
3 Plur.	<i>διδο-ΐε-ν</i>	„	<i>διδο-ΐ-ντο</i>
$=\delta i\delta o-\hat{\iota}-\epsilon\eta\tau.$			

Verbs of the ordinary conjugation have the shorter form of the suffix, which coalesces with the preceding *o* (whether this be regarded as thematic vowel or an addition to the stem, assimilating all stems to *a* stems, makes no difference here) into the diphthong *oi*, e. g. *φέροι-μι*, *τύπτο-ι-μι*. In 3 plur., however (as with *-μι* verbs), the longer form is retained in its most primitive shape (*ιε=yā*), e. g. *φέρο-ιε-ν*, *τύπτ-ο-ιε-ν*. With the longer form of suffix the secondary, with the shorter form the primary person-endings are found. ‘Contracted’ verbs in *-ω* employ both forms of the mood-sign with corresponding variety of person-endings: thus from *τιμάω* (= *τιμάο-μι*) we find pres. opt. *τιμάο-ι-μι*, *τιμώμι*, and *τιμαο-ίη-ν*, *τιμώην*.

The strong (2nd) aor. opt. is formed like the present opt.: e. g. *δο-ίη-ν*, *δο-ί-μην*, *τύπ-ο-ι-μι*, etc. (present, *διδοίην*, *διδοίμην*, *τύπτοιμι*).

Mood-signs. The weak (1st) aor. employs *i* as mood-sign, retaining its characteristic stem-letter *a*, λύσα-ι-μι, λυσα-ι-μην.

The passive aor. employs *η* as mood-sign with secondary person-endings, λυθε-ίη-ν, τυπε-ίη-ν.

Optative forms in Latin.

Optative forms are traceable here and there in the Latin verb. Compare for example the parallel forms of pres. opt. from root *as* (*es*, *es*) in Sanskrit, Greek, and Latin:—

1 Sing.	s-yā-m (=as-ya-m)	εἴην (=ἐσ-ιη-ν)	s-iē-m (=es-ie-m)	sim
2 , ,	s-yā-s	εἴης (=ἐσ-ιη-ς)	s-iē-s (=es-ie-s)	sis
3 , ,	s-yā-t	εἴη (=ἐσ-ιη-τ)	s-iē-t (=es-ie-t)	sit
1 Dual	s-yā-va			
2 , ,	s-yā-tam	εἴη-τον, εἶτον		
3 , ,	s-yā-tām	εἴητην, εἴτην		
1 Plur.	s-yā-ma	εἴημεν, εἶμεν		sīmus
2 , ,	s-yā-ta	εἴητε, εἶτε		sītis
3 , ,	s-yus	εἶεν (=ἐσ-ι-εντ)	s-ie-nt (=es-ie-nt)	sint
		[εἴη-σαν a later form, see p. 176.]		

The evident correspondence of this old Latin form *siem*, later *sim*, with the parallel optatives of the Sanskrit and Greek verbs, is irresistible evidence that in other so-called conjunctive forms in *-im*, *-is*, *-it*, we have *optative* formations. Thus *velim*=*vel-ie-m*, *duim* (common in Plaut. and Ter. and in old legal language, ep. *Di te perduint* used by Cicero)=*daim*=*da-ie-m*, which corresponds to Greek δο-ίη-ν, and to a (Vedic) Sanskrit form *de-yā-m*¹. So *edim* from *edo* (Hor. Epod. iii. 3; Sat. II. viii. 90²): *temperint*, *coquint* (XII Tab.).

There is also reason for supposing that the subjunctive present of *a* stems, in which *e* is the characteristic letter, is an optative form. Beside *stet* is found Oscan *sta-it*=Greek στα-ίη-(τ), which points to *sta-ie-t*, *sta-ī-t*, as the origin of the Latin form. Thus *amem*=*ama-i-m*=*ama-ie-m*: ep. Umbrian *porta-ia(t)*=*portet*, and Greek τιμα-ο-ίην, τιμώην.

The ‘future indicative’ of consonant-stems (3rd conjugation) in *-em*, *-es*, *-et* appears also to be an optative form, e.g. *dicem*

¹ Curtius quotes also the Vedic forms *de-yā-m*=δο-ίη-ν, *dhē-yā-m*=θε-ίη-ν, *jñē-yā-s*=γνο-ίη-ς. ‘Das Verbum,’ II. p. 82 (Engl. transl. p. 329).

² In Virg. Aen. xii. 801, ‘Ne te tantus edit tacitum dolor,’ Ribbeck’s correction, *edit*, is accepted by Conington: Forbiger, Gossrau, Heyne, Wagner, and others, retain *edat*. See Conington’s note, *ad loc.*

=deicai-m : a being here the vowel which in Greek appears Optative forms in as o (see pp. 36, 54), as in φέρο-ι-μι, τύπτο-ι-μι. Thus we have Latin.

Skt. bhara-i-ma(s)	Gk. φέρο-ι-μες	Lat. <i>jēra-i-mus</i>
bhar-ē-ma	φέροι-μεν	<i>ferē-mus</i> ¹ .

III. Tense-stems.

These have been briefly classified above (p. 162), and we may proceed to discuss them in the order there observed.

1. Perfect-stem :—

The most characteristic feature of the Perfect-stem in Indo-European languages is Reduplication, i. e. doubling the verbal root. The force of the Perfect Tense is to express *completed action*; and for this purpose language seems to have availed itself of the same means or instrument, by which (as we have noticed above, p. 52) frequentative and desiderative verbs are often formed, and any strengthening of the idea of a word is expressed. The earliest conceivable form would be a simple repetition of the root, with a further root indicating the subject, —vid vid ma. The ‘agglutinative’ stage of language would give vidvidma; and the inflectional stage is marked by frequently raising the vowel of the second root and shortening the first by loss of its final letter, e. g. vivaidma; the process which is seen in so many Greek perfects, e. g. λέλοιπα (stem λιπ-), πέποιθα (πιθ-), etc.

It is indeed not improbable that the Perfect may have been a development from the reduplicated present with an intensive meaning. It has the primary person-endings and no augment: its distinctive feature, reduplication, is employed in the formation of certain present-stems; and in Vedic Sanskrit, the oldest accessible type of Indo-European language, the distinction in meaning between ‘intensive’ present and perfect is slight and fluctuating. These facts certainly point to a closer connection between the present and perfect formations than appears in later developments of Indo-European speech, and perhaps indicate that the perfect, so far from necessarily implying *past* or *completed* action, was at first a reduplicated present with an intensive meaning,

Formation
of Perfect-
stem.
Reduplica-
tion.

¹ The following forms are cited from Zend:—apa-barois = ἀποφέροις = au-ferēs (ab-fera-is); bara-yen = φέρο-ιεν(τ) = ferēnt (fera-int).

Perfect-
stem.

which became by degrees an independent member in the system of verbal forms, with a distinctive stamp of its own¹.

The phenomena of Homeric Greek bear out this view². The store of perfects in Homer is scanty as compared with Attic writers: the form in *-ka* (see below, pp. 193-4) is only just beginning, while the aspirated form (*-pha*) does not exist: and the meaning is generally nearer that of the present than of the ‘perfect’ proper. Thus e.g. *ἔμμορε* (Od. xi. 337) is not ‘has divided,’ but ‘has his share;’ *εἰρύαται* (Od. vi. 265) not ‘have saved’ but ‘keep safe;’ *προβέβονλα* = ‘I prefer,’—and so on. Many Homeric perfects again express *states* of mind or body—*κέκμηκα*, *ἔρριγε*, *ὔρωρε*, *σέσηπε*, *ἔσσυμαι*, *πεφυξότες*, etc.; or sustained sounds, cries, etc., e.g. *γέγωνε*, *βέβρυχε*, *κεκληγώς*. Traces of this earlier meaning survive in Attic Greek in the ‘perfects with present force’—*ἔστηκα*, *ἔγνωκα*, *γέγηθα*, *κέκτημαι*, *μέμνημαι*, etc.: while in the New Testament, forms like *ἡλπικα*, *τεθαύμακα* express a state of feeling, and are often best represented by a present³.

Greek
Perfect.

In the form of its perfect-stem, and by the almost universal employment of reduplication, Greek shows evidence of greater antiquity than Latin; which, as we shall see below, forms its perfect-stem in four or five different ways (by reduplication least of all). Reduplication, especially, gives to the Greek perfect-stem, in spite of differences in the mode of formation, a unity which it is vain to look for in Latin.

The reduplic-
ated syllab-
le.

The reduplicated syllable usually contains the initial letter of the root with the vowel ε, representing original α, the commonest root-vowel. Apparent exceptions are due to the phonetic tendency towards easier articulation: thus an aspirate is represented by a corresponding tenuis; *πέφηνα* (*φαν-*), cp. *τίθημι*; while of two initial consonants only one is repeated, and that only when it is a mute followed by λ, μ, ν, ρ, e.g. *γέγραφα*, *πέπληγα* (*πλαγ-*), *πέπνευκα* (*πνυ-*). [Exceptions are γν, γλ, and sometimes

¹ Curtius, ‘Das Verbum,’ II. 121 (Engl. transl. 355).

² For fuller particulars, see Monro, ‘Homeric Grammar,’ § 28.

³ Thus in John v. 45, *ἔστιν δὲ κατηγορῶν ὑμῶν, Μωσῆς, εἰς δὲν ὑμεῖς ἡλπίκατε*, the appeal is to a *present* state of hope or trust: and the Authorized Version ‘in whom ye trust’ need not have been altered by the Revisers to ‘on whom ye have set your hope.’

$\beta\lambda$ — ξ -γνω-κα, ξ -βλάστη-κα: and on the other hand the stems κτα Greek Perfect. and μνα have κέ-κτη-μαι, μέ-μνημαι. In πέπτωκα an ε has fallen out between πτ.]

In all cases but those specified, a stem beginning with two consonants has only ε for its reduplication,— ξ κτονα, ξ ζήτηκα, etc. The similarity of sound with the augment (p. 163) which is thus occasioned is, of course, purely accidental: and it is incorrect to say that any verb forms its perfect ‘by prefixing the augment.’

Initial vowels are lengthened, as ὁρθό-ω, ὁρθωκα: but some stems with initial a, ε, ο, take ‘Attic Reduplication,’ i. e. either (1) doubling the whole root (οδ-ωδ-α, root οδ-), or (2) repeating the first syllable only of the root or stem (ἀλείφω, stem ἀλιφ-, ἀλ-ήλιφ-α; ἐλαύνω, ἐλα-, ἐλ-ήλα-κα). This ‘Attic’ Reduplication is most frequent in Homer, e. g. ἀρήροται, ἀλάλημαι, etc. Herodotus has ἀρ-αίρη-κα from αἴρεω¹.

The forms ε-άλω-κα, ξ-αγ-α, ξ-οικ-α, ξ-ώνη-μαι, are due to the loss of an initial consonant of the respective stems (*F*). Homer has ε-ολπ-α (*F*ελπ), ξ-οργ-α (*F*εργ, our *work*): see above, ch. iv. p. 68.

Certain verbs with initial liquid consonant have ει for reduplication, e. g. εἰληχα, εἰληφα, εἰμαρται.

The stem vowel is sometimes strengthened—a phenomenon common to Greek, Sanskrit, Gothic and old Erse, and in harmony with the possible origin of the perfect from an intensive present (above, p. 187). Cp. e. g.

Greek root φαν, perf. πέφηνα, with Vedic root tan, perf. tetāna (3 sing.).

„	λιπ	„	λέλοιπα	„	ric	„	rirēka.
„	φυγ	„	πέφευγα	„	ruj	„	rurōja.

This vowel-intensification is an archaic procedure, confined within definite limits, and is not as a rule transferred to later forms. Curtius² enumerates thirty-nine perfects in which there is *complete* intensification: i. e. where the short vowel of the root becomes the corresponding long vowel (only in case of a primitive a), as in κεκράγα (ξ κράγον), τέτηκα (τ ακῆναι), μέμηλε

¹ See Curtius’ ‘Greek Grammar,’ § 275.

² ‘Das Verbum,’ II. pp. 183 sqq. (Engl. transl. pp. 396-400).

Greek
Perfect.

(orig. root $\mu\alpha\lambda$.); or where a diphthong appears (only where there is ι or υ in the root), as in $o\bar{\imath}\delta a$ ($F\iota\delta-$), $\tau\acute{e}\tau\epsilon\nu\chi a$ ($\tau\acute{e}\tau\nu\gamma-\mu\alpha i$). A second group is marked by ‘half intensification;’ i. e. where ϵ of present stem becomes \circ , as in $\gamma\acute{e}\gamma\nu\alpha$, $\delta\acute{e}\delta\sigma\rho\kappa a$ ($\delta\acute{e}\rho\kappa\mu\alpha i$), $\acute{\epsilon}\omega\lambda\pi a$ ($\acute{\epsilon}\lambda\pi\acute{i}\zeta\omega$), etc.; twenty-four examples of which are given, with the addition of $\epsilon\acute{i}\omega\theta a$, where \circ becomes ω under influence of F , and $\acute{\epsilon}\rho\rho\omega\gamma a$, where η becomes ω .

A comparison of the conjugation of e. g. $o\bar{\imath}\delta a$ with the corresponding forms in Sanskrit and Gothic shows a curious correspondence in what is at first sight anomalous, viz. the restoration of the intensified stem to the singular number, in connection originally with certain laws of accent.

Perfect in
Sanskrit,
Greek, and
Latin.

	Sanskrit.	Greek.	Gothic.	Latin.
Stem.	vid-	$F\iota\delta-$	vit-	vīd
1 Sing.	vēd-a	$Fo\bar{\imath}\delta-a$	vait	vidi
2 „	vēt-tha	$Fo\bar{\imath}\sigma-\theta a$	vais-t	vidisti
3 „	vēd-a	$Fo\bar{\imath}\delta-\epsilon$	vait	vidit
1 Dual	vid-vā		vit-u	
2 „	vid-áthus	$F\iota\sigma-\tau\omega$	vit-u-ts	
3 „	vid-átus	$F\iota\sigma-\tau\omega$		
1 Plur.	vid-má(s)	$F\iota\sigma-\mu\epsilon\nu$	vit-u-m	vīd-i-mus
2 „	vid-á	$F\iota\sigma-\tau\epsilon$	vit-u-th	vidistis
3 „	vid-ús	$F\iota\sigma\alpha\sigma\iota$ $=F\iota\delta-\sigma\bar{\alpha}\nu\tau\iota$	vit-u-n	viderunt.

Influence
of accent.

In Sanskrit can be seen the regular working of laws of accent which required this change from sing. to dual and plural in the perfect stem. In Greek, analogy has carried the raising of the stem right through the conjugation of this tense, e. g. $\lambda\acute{e}\lambda\omega\pi a$, $\lambda\acute{e}\lambda\omega\acute{\iota}\pi a\mu\epsilon\nu$ (for $\lambda\acute{e}-\lambda\iota\pi-\mu\epsilon s$): but the impress of the laws in question remains, as we see in $o\bar{\imath}\delta a$, $\acute{\iota}\sigma\mu\epsilon\nu$; in $\acute{\epsilon}\acute{\iota}\kappa\tau\omega$ from $\acute{\epsilon}-\acute{\iota}\kappa\kappa-a$ (stem $\acute{\iota}\kappa\kappa-$), $\acute{\epsilon}\pi\acute{e}\pi\iota\theta-\mu\epsilon\nu$ plur. from $\pi\acute{e}-\pi\iota\theta-a$ (stem $\pi\iota\theta-$); and in the shortened plural forms of perf. $\beta\acute{e}\beta\acute{a}\mu\epsilon\nu$, $\tau\acute{e}\theta\bar{\imath}\mu\epsilon\nu$, $\tau\acute{e}\tau\lambda\acute{a}\mu\epsilon\nu$, $\acute{\epsilon}\sigma\tau\acute{a}\mu\epsilon\nu$, $\delta\acute{e}\delta\acute{d}\mu\epsilon\nu$. Latin has lost all trace of it; but it survives as above in Gothic, and in modern German *Ich weiß*, ‘I know,’ *Wir wissen*, ‘we know.’ [A similar change of

quantity, inexplicable at first sight, between $\delta\epsilon\kappa\nu\bar{\nu}\text{-}\mu$ and $\delta\epsilon\kappa\nu\bar{\nu}\text{-}\mu\epsilon\nu$, $\delta\acute{a}m\eta\mu$ and $\delta\acute{a}m\eta\acute{a}\mu\epsilon\nu$, and similar words, is illustrated by the working of the accent in Sanskrit, where exactly the same change is produced, but with greater regularity. In all these cases Greek has lost the consciousness of the original motive power for the change, retaining with uniformity of accent the results of a difference (cp. *véd-a*, *vid-má* with *oīδa*, *īdμεν*). These survivals, however, were but few, and the natural process of analogy brought about the complete uniformity of $\lambda\acute{e}lōi\pi\alpha$, $\lambda\acute{e}lōi\pi\mu\epsilon\nu$.]

Person-Endings of the Perfect Active.

1 sing.: $-\mu\epsilon$ has disappeared, perhaps through loss of $-i$, followed by that of the then isolated nasal (cp. e.g. *πόδa*, Skt. *padam*). Two perfect forms in $-\mu\epsilon$, however, are mentioned as having existed—*īσā-μi* and *Foīδημi* (Aeolic).

2 sing.: $-\theta a$ or $-\sigma\theta a$ is characteristic of this tense, and corresponds to Skt. and Zend *tha*, Latin *-sti* (see above, p. 171). Greek, however, only retains it in *oīσθa*, the fuller ending being softened into $-s$ on the analogy of the ordinary 2 sing. termination in other tenses.

3 sing.: *ti* has disappeared, and *a* become weakened to ϵ , as in *γέγονε* (*γεγόνa-τi*), Skt. *jajāna*. The Doric *īσā-τi* (Theocr. xv. 146) survives to show the primitive form; the successive steps of decay being seen in Lat. *vidit*, Skt. *vēda*, Gk. *oīδε*.

1 plur.: Skt. has only the secondary ending *-ma*: but Gk. and Latin retain *-μεν* (Doric *-μες*) and *-mus* respectively.

2 plur.: $-\tau\epsilon$ as in present: a few peculiar forms only having $-\theta\epsilon$ (perhaps from analogy of the middle *τέτυφθε*, *ἔφθαρθε*), e.g. *πέποσθε* (for *πεποσ-τε=πεπονθ-τε*): cp. the imper. sing. forms *ἄνωχθε* (Od. xxii. 437), *ἔγρήγορθε* (Il. vii. 371), the latter of which recalls *ἔγρήγορθai* (infin. mid.), Il. x. 67.

3 plur.: The *ā* of *-āσi* is usually held to indicate contraction for *-σαντi* or *-αντi*, e.g. *īσāσi=fιδ-σαντi* (above, p. 190), *πεποιθāσi=πεποιθa-(σ)αντi*. The existence of two Homeric forms in *-āσi* (*πεφύκāσi* Od. v. 114, *λελόγχāσi* Od. ix. 304), and elsewhere of *μεμαθήκāσi*, *πεφήνāσi* (Xenophanes), *νενεύκāσi* (Antimachus), and *πεπήγāσiν* (Empedocles), points perhaps to a primitive *-ντi* (*-atī*)

Greek Perfect :
Influence of accent.

Greek
Perfect:

retained as the *thematic* ending, *-σαντι* being that of *non-thematic* forms: e. g.

$\pi\epsilon\nu\theta\bar{a}\sigma i = \pi\epsilon\nu\theta a\text{-}\bar{a}\sigma i$ ($\pi\epsilon\nu\theta a\text{-}a\tau i$), Thematic.

$\gamma\epsilon\nu\bar{a}\sigma i = \gamma\epsilon\nu\nu\text{-}\sigma a\tau i$, Non-Thematic.

$\pi\epsilon\nu\kappa\bar{a}\sigma i = \pi\epsilon\nu\kappa\text{-}a\tau i = \pi\epsilon\nu\kappa\text{-}v\tau i$ (as $\tau\epsilon\nu\chi\text{-}a\tau i = \tau\epsilon\nu\chi\text{-}v\tau i$) would then be a relic of the primitive conjugation of dual and plural perfect active described below: not (as Curtius thinks) a metrical shortening of $\pi\epsilon\nu\kappa\bar{a}\sigma i$.

Formation
of Stem.

Primary formation of Perfect Stem. In the formation of the Greek Perfect Stem we meet with a difference analogous to that between ‘Non-Thematic’ and ‘Thematic’ Present or Aorist Stems. In a limited number of archaic verbs (erroneously described as ‘syncopated’ from the common, but later formation) the person-endings of the dual and plural indicative were attached *directly* to the stem. Nineteen such verbs are enumerated by Curtius¹; some of the more familiar forms being $\beta\epsilon\nu\beta\bar{a}\text{-}a\sigma i$ (Il. ii. 134), $\delta\epsilon\nu\delta\bar{t}\text{-}\mu\nu$ (Il. i. 230), or Attic $\delta\epsilon\nu\delta\bar{t}\text{-}\mu\nu$ (Thuc. iii. 56), $\epsilon\nu\lambda\bar{l}\nu\lambda\nu\theta\text{-}\mu\nu$ (Il. i. 49, Od. iii. 81) cp. with $\epsilon\nu\lambda\bar{l}\nu\lambda\nu\theta a\text{-}\mu\nu$, $\epsilon\nu\pi\epsilon\nu\theta\text{-}\mu\nu$ (Il. ii. 341) cp. with $\epsilon\nu\pi\epsilon\nu\theta a\text{-}\mu\nu$, $\epsilon\nu\sigma t a\text{-}\mu\nu$, etc., $\tau\epsilon\nu\lambda\bar{a}\text{-}\mu\nu$, etc. In all except these comparatively few archaic forms the Greek perfect stem is distinguished by the final stem letter *a*.

This characteristic *-a* of Greek perfect stems ($\pi\epsilon\nu\theta a$, $\pi\epsilon\nu\theta a\text{-}\mu\nu$) is not (as has been supposed) a ‘connecting vowel,’ but an addition to the stem analogous to the ‘thematic vowel’ (*ε* or *ο*); which in Greek became the rule of all perfect stem formation, with the exception of the archaic forms just mentioned. It also appears in Sanskrit, but less regularly, e. g. *tutoda* 1 and 3 sing., but *tutudi-ma*, *tutudi-tha*, with which it is obvious to compare, as Curtius does (II. 173, Engl. tr. p. 389), the Latin *tutudi-mus*. The perfects which exhibit this *a* thus stand to the archaic forms already mentioned as ‘thematic’ to ‘non-thematic’ forms; so that e. g. $\gamma\epsilon\nu\gamma o\sigma a$ (in $\gamma\epsilon\nu\gamma o\text{-}\mu\nu$): $\gamma\epsilon\nu\gamma a\text{-}(\gamma\epsilon\nu\gamma a\mu\nu)$: : $\dot{\alpha}\nu\gamma o\text{-}(\dot{\alpha}\nu\gamma o\mu\nu)$: $\tau i\theta\epsilon\text{-}(\tau i\theta\epsilon\mu\nu)$.

It is probable that this auxiliary *ă* was originally confined to

1 sing. and 3 plur. (primitive *-am*, *-ant*, Gk. *a*, *-ᾰν*) and was Greek gradually extended to other person-endings. The argument (for Perfect. which I am indebted to Mr. Monro) is as follows :—

1. Sanskrit stems ending in *i*, *u*, take *a* before *-m* of 1 sing. and *-n* of 3 plur.; e.g. *açravam*, *açro-s*, *açrot*—3 pl. *acravan*; *adarç-am*,—3 pl. *adarç-an*.

2. The 2 sing. has no auxiliary vowel in Skt. perfects, and in *ŋσ-θa*, *oîσθa*. *oîða-s* is found in Homer, and all later perfects have *a*, as *τέτληκα-s*.

3. In the Homeric perfect and aorist in *-ka* the *a* appears regularly in sing. act., occasionally in 3 plur.

4. The later perfect employs *ă* throughout the active, retaining the original stem in Middle: *πεποίθα-μεν*, *πεποίθατε*, etc. supplanting Homeric *πέπιθ-μεν*, etc. The Homeric perf. *ἐνήκαμεν* (Od. xii. 401) represents this stage.

5. The aorist in *-σα* extends *a* to the Middle, and to part. and infin.; but forms conjunctive without it.

6. In the Alexandrian period *ă* even takes the place of the Thematic Vowel (*ε* or *o*), as in *εύρα-μην*, etc. (so possibly in Homeric *ζειπα*, *ηνεικα*).

We have thus a series of steps by which stems in *-ă* supplanted older forms. The newer form in each case—at first a solecism—had generally two advantages over the established one: (1) it avoided the meeting of consonants (e. g. in *πέ-πιθ-μεν*) and consequent phonetic decay, (2) it gave a uniform sound to connected terminations.

The ordinary formation of Perfect Active in Greek may be divided into—

1. *Strong Perfect*, formed directly from the stem—*πράσσω*, ‘Strong’, *πέ-πράγα*; *τίκτω* (stem *τεκ* as in *ζ-τεκ-ον*), *τέ-τοκα*; *λείπω*, *λέ-λοιπα*. *Perfect.* The Strong Perfect occurs almost entirely in the case of verbs whose verbal stem is a root ending in a consonant; and is generally the older and rarer form.

2. *Weak Perfect*, formed from the stem by insertion of *κ*,—*εσταλ-κα*, *κέ-κρι(ν)-κα*; the only form in use in vowel stems, and the most common with stems ending in *τ*, *δ*, *θ*, *μ*, *ν*, *λ*, *ρ*. The origin of this element *κ* is unknown: it occurs rarely in Homer

(about twenty¹ out of nearly three hundred known instances) and then only with vowel-stems: and is evidently an element of stem formation, which is traceable in the isolated aorist forms ἔδωκα, ἔθηκα (cp. θήκη), ἤκα; in present forms such as ὀλέκω; in aorists such as ἥμπλακον, ἔπτακον; and possibly in forms like βάκτρον, bac-ulus (root βα of βαίνω, ἔβην), φῦκος, fuc-us (φύω, ἔφυν). Curtius suggests a comparison with the Latin *fac-io*, which, if root *fa=θε*, would be a present form corresponding to ἔθηκα.

The aspiration of the final stem consonant in forms like γέγραφα (*γραπτ-*), ἐνήροχα, εἴληφα, etc. is probably a mere phonetic alteration without any definite reason. It is unknown to Homer, who has e.g. κεκοπώς: and is found in comparatively few verbs. Curtius² enumerates thirty-seven aspirated perfects, most of them not found before Polybius. Bopp regarded these aspirated perfects as a distinct formation, a view which is sufficiently refuted by Curtius (Elucidations to Greek Grammar, § 272, pp. 123–128, English Translation).

Perfect
Middle and
Passive.

The term ‘Perfect Middle’ applied to e.g. γέγορα is erroneous. A perfect Middle or Passive can only be formed in one way, viz. by affixing Middle person-endings without a connecting vowel to the reduplicated stem, as λέλυμαι, τέτυμμαι=τέτυπμαι. The final consonants of consonantal stems change by the laws of assimilation before the initial μ, σ, τ of the inflections, as in the table on p. 195.

The Perfect Middle generally exhibits a simpler form of Perfect Stem than the Perfect Active, in which (as has been shown above) intensification of the stem vowel and addition of the elements α and κ have modified the original reduplicated stem. Cp. e.g. τετύγμεθα with τετεύχαμεν, the primitive form of which would be τετυγμεν: λελάσμεθα (for λελάθμεθα) with λελήθαμεν.

The Pluperfect Middle and Passive differs from the Perfect

¹ These are ἀδηκύτες, βέβηκας, βεβίηκε, βεβλήκοι, βεβρωκάς, δεδάηκε, δεδιπνήκει, δέδοκε, δείδουκα, ὑπεμνήμυκε, ἔστηκας, κέκμηκας, μέμβλωκε, μέμυκεν (μύω), πεφύκασι, τεθαρσήκασι, τέθνηκε, τέτληκας, τετυχηκάς, παρφάχωκε. See Curtius, ‘Das Verbum,’ II. p. 210 (Engl. transl. p. 413).

² Ibid. pp. 200, 201 (Engl. transl. p. 407).

Final Letter of Stem assimilated. (See pp. 74-78.)	Before μ .	Before σ .	Before τ .	Stem.	Examples.	Perfect Middle and Passive.
					Perf. Pass. Inflec.	
All Gutturals to	γ	κ (ξ)	κ	$\pi\lambda\epsilon\kappa-$	$\pi\acute{\epsilon}-\pi\lambda\epsilon\gamma-\mu\alpha i$	
				"	$\pi\acute{e}\pi\lambda\epsilon\xi\alpha i$	
„ Dental „	σ	rejected	σ	$\lambda\epsilon\gamma-$	$\lambda\acute{e}\lambda\epsilon\kappa-\tau\alpha i$	
				$\pi\iota\theta-$	$\pi\acute{e}\pi\epsilon\iota\sigma-\mu\alpha i$	
„ Labials „	μ	π (ψ)	π	$\gamma\rho\alpha\phi-$	$\pi\acute{e}\pi\epsilon\iota\sigma-\sigma\alpha i$	
				"	$\pi\acute{e}\pi\epsilon\iota\sigma-\tau\alpha i$	
				"	$\gamma\acute{e}\gamma\pi\alpha\mu-\mu\alpha i$	
				"	$\gamma\acute{e}\gamma\pi\alpha\phi\alpha i$	
				"	$\gamma\acute{e}\gamma\pi\alpha\phi\pi\tau\alpha i$	

only in prefixing the augment and in having the secondary Person-endings. The Pluperfect Active is a composite tense and will be treated below.

Latin Perfect-stem :—

There are several different ways of forming the perfect-stem : Formation of Latin Perfect-stem.
viz.—

(i.) *Reduplication*; only in about twenty-seven verbs, and with some of these only in archaic Latin (e. g. *te-tuli*, *te-tini*, *sci-cidi*). Of two initial consonants, the second is treated as initial, and both are retained (unlike Greek) in the reduplicated syllable; e. g. *ste-ti* (*sta-*), *spo-ponl-i* (*spondl-*).

The vowel in the reduplicated syllable often (as in Greek) sinks to *e*, especially where the root vowel is *a* or a weakening of *a*; *dedi* (*da-*), *cecinī* (*can-*), *peperi* (*par-*), *cecidi* (*caed-o=cāid-*), *te-tuli* (root *tol=tal*). In compound verbs the reduplication often disappears, e. g. *pepuli*, *expuli*; *cucurri*, *decurri*: but remains in compounds of *do*, *sto*,—*abdili*, *abstiti*. *Reppuli*, *rettuli*, *repperi*, etc. (sometimes explained as the result of assimilation from *red*, the earliest form of *re*) perhaps= *re-pepuli*, *re-tetuli*, etc., *e* disappearing.

If the root syllable *a* of present sinks to *e* (or *i*) before two consonants or *r* (p. 61), *e* becomes *u* before *l* (*pepuli*, *pello*, *sepultus*, *sepelio*).

(ii.) *Raising the Stem-vowel* (without reduplication—Greek 2. Raising Stem-vowel.

Latin Perfect-stem.

employs both); *fāre-o, fāri; āgo, ēgi; iācio, iēci; lēgo, lēgi; vīdeo, vīdi; rūmpo* (stem *rūp-*), *rūpi*, etc. Some explain the length of the root syllable in these perfects by the absorption of a reduplicated syllable: i. e. *iēci=ieici, lēgi=leligi*; or, where *v* is final stem consonant, by absorption of a suffixed *v* (see below, iv): i. e. *fāvi=fāv-vi*. But the analogy of Greek perfect-stems (above, pp. 187-9) where vowel-raising and reduplication go together, perhaps points to a similar account of this formation in Latin: one part of the process is lost, but the other remains.

3. Suffixing
-s.

(iii.) *Suffixing -s* (perfect in *-si*) to consonant-stems; a later form, sometimes found side by side with the older reduplicated perfect: e. g. *punxi (-csi)* with *pupugi*; *panxi (pang-si)* with *pepigi*; *intellexi (leg-si)* with *lēgi*. For illustrations see Roby's Latin Grammar, i. §§ 670-675. The termination *-s-i* is supposed to = *es-i*, a perfect formation from the stem *-es*, and therefore analogous to the *-σα* of Greek weak (first) aorist stem. Strictly speaking, this perfect is a 'weak' or composite tense, and (with the perfect in *-vi* or *-ui*, mentioned below) is sometimes classed separately under the head of 'Weak Perfect-stem'; numbers i and ii being the 'Strong Perfect-stem': but it seems more convenient to arrange all varieties of the Perfect-stem together.

4. Suffixing
-ui, or -vi.

(iv.) Suffixing *-u (-ui)* to consonant-stems, or *-v (-vi)* to vowel-stems, as with most regular verbs in *ā, ī, amavi, audi-vi; ē* stems with a few exceptions (*abolevi, delevi*, and *quievi*, etc. from inchoative pres. *quiesco*) drop the final *ē* and form the perfect as though from a consonant stem, *mon(e)ui, ferb-ui*, and from some *ā-* stems are found similar forms, e. g. *crep-ui, cub-ui* (rarely *crepa-vi, cuba-vi*); also from pres. *-io*, infin. *-ire* (*ī* being dropped), *aper-ui, salui*.

The perfect form in *-vi, -ui*, is found in a considerable class of verbs with a Present-stem (see below, pp. 207, 209) increased by *n* or *sc*, e. g. *lino, livi*, or *levi*; *sino, si-vi*; *cre-sco, cre-vi*. In *sternui* from *sterno*, *trivi* from *tero*, the stem originally consonantal becomes a vowel-stem by metathesis of the vowel and *r*: *pōs-ui* is from *pōs-no*, contracted, *pōno*.

In certain verbs whose stems end in *-u* (*acuo*, *arguo*, *tribuo*, Latin Perfect-stem. *statu-o*, etc.) the *-ui* of the perfect arises from loss of *v*, *u* being *-ui*, or *-vi*. the stem-letter, e. g. *statui*=*statu-vi*. In some other verbs the apparent identity of perfect- and present-stem may arise from loss of reduplication (*pandi*, *verti*, etc.).

N.B. The perfect-stem formed by suffixing *v* is frequently modified by the omission of *v* in all forms except 1 and 3 sing. and 1 plur. of perf. indic., and the contraction of the vowels thus brought together: e. g. *amâsti*, *amâstis*, *amârunt*, *amâram*, *amâssem*, *amâsse*. Sometimes however the vowels are not contracted after loss of *v*, e.g. *ie* and sometimes *ii*, as *audieram*, *audiero*, *audiisti*, as well as *audisti*; so frequently from *peto*, *eo* and their compounds.

Sometimes both forms of Compound Perfect in *-si* and *-ui* are combined in one verb, e. g. *met-o*, *messui*=*met-s-ui*: *nexui*=*nec-s-ui* (stem *nec-*).

The ending *-vi*, *-ui* is generally recognised as = *fu-i* the preterite of stem *fu-* (Sanskrit *bhu-* in *bhav-ā-mi*=*existō*, *orior*; 3 sing. 2 aor. *a-bhū-t*: Greek *φύω*, *φυ-τεύω*, etc.; *fu-am*, *futurus*, *fo-rem*, *fore*). The original *bh* represented by *f* in *fu-i*, etc. (p. 70), may have passed into *h*; then *hui* would easily lose its aspirate, and become *-ui* or *-vi*. Whatever the process, it is evident that *vi*=*ui* and that *v* must not be considered as representing the *f* of *fui*. The formation, then, of the compound perfect in *-vi* is exactly analogous to that in *-si*; a preterite form of stem *fu-* being used in one case, a preterite of stem *es-* in the other.

The terminations are the same for all four classes of perfect- Inflection of stems, being distinguished throughout from the Greek perfect stem. by the characteristic vowel *i*¹ (found in old Latin in all persons except 1 plur. and often written *ei*).

¹ Corssen (Ueber Aussprache, etc., i. p. 609, 2nd edition) quotes from the poets, *fuit*, *rediit*, *ridit*, *dedit*, *stetit*, and many others. Lachmann, on Luer. iii. 1042, instances *petiit*, *abiit*, *rediit*, *periit*, from various passages in Ovid, and 'Italiā fatis *petiit* auctoribus,' from Virg. Aen. x. 67, where however most MSS. and editors read 'petiit fatis:' and goes so far as to maintain that, the final *-it* being necessarily long, Virgil would not have shortened it, but must have written, e. g. in G. ii. 81, Aen. ii. 497, *exit* not *exiit*, in Aen. v. 274 *transit* not *transiit*. Lachmann's extreme view, how-

Latin Perfect-stem.

This *ī* appears as *ē* in 3 plur., and in old forms of 3 sing., e.g. *fuet* (Scip. Epit., see Appendix I. i. 2), *dedit*, *ornavet*; *fueit*, *dedeit*, etc. on old inscriptions, representing an intermediate sound between *ē* and *ī*. The length of the vowel in such forms led Corssen (Ausspr. I. p. 614) to connect them with a Sanskrit aorist formation characterised by *ī* [e.g. from root *vid*, 'to know,' *avēdīsham* (Ved. *aved-īm*), *avēdīshi* (*avēd-is*), *avedīt*; plur *avēdīshma*, *avēdīshta*, *avēdīshus*. Curtius however (Das Verbum, II. pp. 173 sqq.), points out that these forms are entirely without reduplication, which from the first connects the Latin perfect with that of Greek and Sanskrit; and refers in illustration of its characteristic *ī* (the only difficulty to complete identification with Greek and Sanskrit) to Indian forms which have *ī* inserted between stem and suffix, some present (e.g. *bravī-mi*, 'I speak'), some present forms from *intensives*, e.g. *dardar-ī-mi* (root *dar*, 'split'), *bōbhavī-ti* (root *bhū*, 'be'). If the perfect is originally an intensive present (above, p. 187), this *ī* may well compare with *ī* of Latin perfects; and the intensive form *bōbhavī-ti* would correspond exactly to *fūt* (an old form) which = *fe-fori-t*. And in any case the occurrence of *ī* elsewhere than in aorist formations prevents it being a reason for necessarily connecting forms that exhibit it with aorists. Curtius also points (*l. c.* pp. 175-8) to traces of a stem forming *η* (or *ε*) in the Greek perfect, e.g. *Foīδη-μι* (Aeolic), the 2 and 3 sing. forms in *-ης*, *-η* which occur in some MSS. of Theocritus, the perf. infin. in *ε-vau*, and Doric fem. participles in *-εīa*: and, as a Latin vowel fluctuating between *e*, *ei*, and *i* corresponds to Greek *ε* (original *a*) in e.g. *ne* (*ni*, *nei*) cp. with *νή-ποντος*, and *sēmi-* cp. with *ημι-*, he contends for the analogy between *Foīδη-μι*, *Foīδη-σθα* and *vidī*, *vidī-sti*.

Another view is that the Latin perfect is formed by a suffix *-is* (*is-ti*, *is-tis*), with which the *ēr-* of 3 plur. (*ēr-unt* = *ēs-unt*) is identical; cp. also the infinitive termination *-is-se*. These

ever, is repudiated by Munro on Luer. l. c., and Conington on Aen. ii. 497; the former pointing out that Ovid is singular among the poets of his day in lengthening the final *-it* of perfects, which, though undoubtedly long temp. Ennius, had come to be universally shortened like so many other final sounds in Latin.

forms, it is held, point to a suffix *is* as characteristic of the Latin Perfect-stem. perfect indicative, whose complete forms would be

fec-is-m(i) (later *fec-i*),
fec-is-ti,
fec-is-t, („ *fecit*),
fec-is-mus, („ *fecimus*),
fec-is-tis,
fec-is-o-nt=fecērunt.

s in Latin not unfrequently falls out before *m* and *t*; this would account for the later forms of 1 and 3 sing.; and of 1 plur. also, except that here the *i* is always short in poetry, and no forms in *ei* have been preserved. We must therefore suppose that in 1 plur. the tendency to shorten the penultima, which is seen at work in 3 plur. *tulērunt*¹, etc., and in the forms of perf. subj. *dederimūs*, etc. (where *i* is the characteristic mood-sign) prevailed to such an extent at so early a period, as altogether to obscure the original quantity. [In the case of 3 plur. the syncopated forms *dedrot*, *dedro*, *dederunt*, on old Pisauran inscriptions², show the early prevalence of such a tendency.]

Others (e.g. Schleicher, Comp. § 291) suppose two forms of perfect-stem, in *is* and in *i*, to account for the different persons of the perf. indicative. The variety of possible, and more or less plausible, hypotheses only shows that for the present no final explanation has been reached; *pe-p̄ig-i*, *πέ-πηγ-α* are obviously parallel forms from a common root *p̄ig*. We can explain the difference of quantity in the second syllable (see p. 189); but at the reason of that in the final syllable we can only guess.

2. ‘Simple’ or ‘Strong’ Aorist-stem [2nd Aor.].

¹ Virg. Ecl. iv. 61 (*tulērunt*), Aen. ii. 774 (*stetērunt*). *Miscuerunt* in Georg. ii. 129, iii. 283, may possibly be trisyllabic (-*cue* by synizesis). Lucretius frequently shortens the *er*; Ennius not so often: and it is probable that this quantity was a later poetical licence with perhaps some foundation in the tendencies of ordinary pronunciation.

² These inscriptions (chiefly votive, to female divinities) are given in Wordsworth’s ‘Fragments and Specimens,’ p. 167. On the marks of their antiquity (not later than the Hannibalic war) see Mr. Wordsworth’s notes, p. 408.

Strong Aorist generally = pure Verbal-stem.

The Strong Aorist-stem exhibits, with few exceptions, the Pure Verbal-stem, sometimes reduplicated; e.g. ἔλιπ-ο-ν from λείπω, ἀγαγ-εῖν from ἄγω. It is only formed as a rule from verbs in which the pure verbal-stem is distinct from the present-stem (enlarged), e.g. λείπω, stem λιπ-; φεύγω, stem φυγ-; βάλλω, stem βαλ-; and but seldom from any but ‘root-verbs,’ whose stems cannot be traced back further. Verbs whose present-stem=pure verbal-stem, e.g. ἀρχ-ω, λύ-ω, λέγ-ω, etc., form no strong aorist, because in these cases it would coincide with the imperfect. With ἄγω, however, the reduplicated form ἄγαγον avoids this confusion: and with some other verbs the change of the vowel in the pure verbal-stem forms a strong aorist distinct from the imperfect, e.g. τρέπ-ω, ἔτραπ-ον.

Greek has two main classes of Strong Aorist forms, corresponding to the two principal conjugations, (p. 168):—

(i.) Without thematic-vowel, usually from vowel-stems¹, e.g. Act. [ἔ-θη-ν, ἔ-θη-σ, ἔ-θη] : ἔ-θε-μεν, ἔ-θε-τε, ἔ-θε-σαν (compound) (but ἔβαν). Mid. ἔ-θέ-μην, ἔ-θε-σο, ἔ-θε-το : ἔ-θέ-μεθα, ἔ-θε-σθε, ἔ-θεντο.
ἔθου,

So ἔβην, ἔφθην, ἔτλην, ἔγνων, ἔάλων, ἔφυν, etc.: and certain Epic middle forms from consonant-stems without a connecting-vowel, e.g. ἄλτο, δέκτο, λέκ-το, πάλ-το, μίκ-το, ὥρτο; λέχ-θαι, ὥρ-θαι, δέχ-θαι (infin.); ἄλμενος, ἄρμενος, δέγμενος, and ἄσ-μενος used adjectivally (=ἄδ-μενος). The imperatives λέξο, δέξο, ὥρσο are more probably weak aorist formations (see below): κέ-κλυ-θι, κέ-κλυ-τε are examples of reduplicated forms.

¹ The original quantity of the root-vowel in some of the forms here cited is a matter of some uncertainty. In ἔ-θέ-την, θεῖναι, θέ-σις, and kindred forms, δέ-δο-ται, δοῦναι, δο-σίς, etc., φά-θι, φα-τός, etc., the short vowel of θε, δο, φα, appearing as it does in a majority of forms, is presumably the primitive root-vowel. On the other hand, the Indian grammarians allow no roots in ā, but only in ā; so that Sanskrit dā answers to Greek δο, Latin dāre (but dō-nim), Sanskrit dhā to Greek θε: and in forms like γνῶ-ναι, γνῶ-τό-s, γνῶ-σις, etc., βιῶ-ναι, ἄλω-σις, ἄλω-ναι, etc., τέ-τρω-μαι, ἔ-τρω-θην, etc., the long vowel extends to the greater number if not to all the forms, and seems to be original. Schleicher maintains that ā is the primitive form in all Sanskrit roots; and readers of his Compendium will find this assumption there carried out. This view may or may not be correct, but we have no *data* reaching far enough back into the history of European speech to enable us to determine the question.

(ii.) With thematic-vowel, as in ordinary conjugation :— Strong Aorist.

Act. ἔ-λιπ-ο-ν, ἔ-λιπ-ε-σ, ἔ-λιπ-ε, } and so on, as Imperfect.
 Mid. ἔ-λιπ-ό-μην, ἔ-λιπ-ε-σο, ἔ-λιπ-ε-το, }
 ἔλιπον,

To this belong most of the reduplicated forms, frequent in Homer, e.g. πέπιθ-ον, ἔειπον = ἔφεπ-ον (usually without augment εἰπον), ἔπέφραδον, ἥνίπαπον, ἥρύκακον. Reduplication here probably does not (as in the perfect-stem) express past or completed action; for this is expressed by the augment, and the combination of the two elements would not be analogous to that found in the pluperfect. We must therefore look to other uses of Reduplication, e.g. the expression of intensive meaning (above, p. 52). Curtius ('Temp. und Modi,' pp. 150–164) enumerates thirty-two reduplicated aorists, in seven of which (ἥκαχον, ὥρορε, δέδαε, λέλαθον, λέλαχον, πεπαρεῖν, κεκαδών) he traces a *causative* meaning; in eleven (κέκλετο, ἥνίπαπε, ἔρύκακε, ἥπαφον, κέκλυθι, λελαβέσθαι, ἀμπεπαλών, ἔπέπληγον, τεταρπέσθαι, ἔπέφραδε, τεταγών) an *intensive* meaning; in two (πετύκοντο, πεπίθοιτο) a special *transitive* sense; while in the remaining ten (ἄλαλκον, ἥγαγον, ἥνεγκον, κεκυθῶσι, κεχάροντο, λελάκοντο, μεμάποιεν, πεφιδοίμην, ἔτετμον, ἔπεφνον) no special influence of the reduplication can be detected. In his later treatise ('Das Verbum,' ii. pp. 21–32) he enumerates forty-one reduplicated aorists; but is more cautious in expressing an opinion as to the exact force of the reduplication. Thus he only mentions ἔκέκλετο (cf. κέλετο), κέκλυθι (cf. κλῦθι), ἥνίπαπε, and perhaps τεταγών (as cp. with *tangere*) as examples of *intensive* force, while citing the same verbs as before for *causative* force. From these Greek forms and a comparison of Sanskrit, in which reduplicated aorists are formed almost entirely from verbs of the tenth class (principally causatives), Curtius arrives at the conclusion that in the reduplicated aorist the reduplication (*Verdoppelung*) belongs not to the tense-formation but to word-formation: and that its original import was to give an *intensive* or *causative* meaning, irrespective of time.

Traces of an aorist formation in Latin are supposed to lie in certain old forms, e.g. in *tago*, *tagis*, an old pres. form of *tango*, mentioned by Festus (Forcell. quotes Plaut. Asin. ii. 2. 106,

Traces of
Aorist in
Latin.

but the reading is doubtful) exhibiting a shorter or ‘pure’ verbal-stem *tag* (*θιγ*) beside present stem *tang*; in *pagunt* (XII Tab.) beside present *pango*, cp. *ε-πάγ-ην*, *πήγων-μι*; and in *parentes* (= *οἱ τεκ-όντες*), beside *parientes* (*οἱ τίκτ-ο-ντες*).

3. Present-stem.

Present-
stem in
relation to
Pure Verbal-
stem.

Present-
stem in
Sanskrit.

The Present-stem is (as has been already pointed out, p. 160) in many cases different from the pure verbal-stem, by combination of which with the various suffixes of person, mood, and tense, all the forms of the verb may be explained. Under the heading ‘Present-stem’ is in fact included a series of morphologically distinct formations, each of which had originally its own special meaning (e. g. inchoative, intransitive, durative, passive, intensive, causative, desiderative, iterative): but in Greek and Latin, while a variety of forms remains, distinct functions have disappeared, or survive only in a few special cases (such, e. g., as the forms for inchoative and desiderative verbs). By Sanskrit grammarians the special modifications of roots to form the present-stem of verbs are taken as the basis of a classification of verbs: and the ten ‘conjugations’ of Sanskrit grammar are ten classes of verbs arranged according to the formation out of roots of verbal-bases or stems, which then receive a common scheme of terminations, in the four ‘conjugational tenses’ (present, imperfect, potential, and imperative) which alone are affected by the rules of stem-formation. In all other tenses there is one general rule for forming the base or stem of all verbs, i. e. in all except the four ‘conjugational tenses’ all Sanskrit verbs belong to one common conjugation. For Greek and Latin Grammar, in which no such elaborate system of stem-formation and euphonic combination of stems with inflections can be traced, the most practicable classification of verbs (as of nouns) is found to be a purely phonetic classification, according to the final letter of the stem (see pp. 167–9): but in the various formations of the Present-stem we have the outlines of a system akin to that of Sanskrit, which may to a certain extent be made the basis of a classification of verbs according to *stem-formation*, but without the corresponding distinctions of *meaning* which give its point to such classification.

The Present-stem is, generally speaking, an *enlarged* form of Formation of Present-stem. The 'pure' Verbal-stem, either by strengthening this latter or stem-making additions to it. For strengthening a root, language employs two principal means,—Reduplication, and Vowel-strengthening (see above, pp. 51, 53); and to these may possibly be added a third, viz. Nasalisation. The operation of these is seen in the formation of 'Intensive' Verbs in Greek, in which Reduplication is often combined with Vowel-strengthening (e. g. *νηρέω*, *παιπάλλω*, *ποιπνίω*) and Nasalisation (e. g. *παμφαίνω*, *βαμβαίνω*, *γογγύζω*, etc.). The employment, separately, of these three means of stem-strengthening gives us three distinct classes of Present-stem¹: and if we take first (as probably earliest in order of time) those verbs in which the Present-stem is identical with the Verbal-stem, we shall thus have four classes of Present-stem, viz. :—

1. Verbal stem unaltered—*φή-μι*, *γράφ-ω*, *ἄγω*, *εάδω*, etc.
2. " " reduplicated—*δί-δωμι*, *πίπ(ε)τω*, *bibo*, *scro* (= *seso*).
3. Stem-vowel strengthened—*φεύγω* (*φυγ-*), *λείπω* (*λιπ-*) *dūco* (*dūc*), *fido* (*fides*).
4. Nasalisation :—
 - (1) By insertion—*ἐλέγχω*, *σφίγγω*, *tango*, *findo*, *fundo*, etc.;
 - (2) By addition—*κάμνω* (*καμ-*), *δάκνω*: forms in *-νν-μι*, *νη-μι*, and *-αν-ω*: *ster-n-o*, *sper-n-o*, *stern-u-o*;
 - (3) By both these—*λαμβ-άν-ω* (*λαβ-*), *μανθ-άν-ω* (*μαθ-*), etc.

To these may be added three more classes, viz. :—

5. Addition of *t* sound—*τύπτ-ω* (*τυπ-*), etc., *pecto*, *flecto*.
6. " " *ya* (pronominal?), which appears,
 - (1) as simple *i* sound—*μηνίω*, *sal-io*;
 - (2) in a diphthong—*δαί-ω*, *μαίομαι*, *φαίνω*, *κτείνω*, etc.
 - (3) by assimilation into a double consonant.
7. Addition of *sk*, Gk. *σκ*, Lat. *sc* (Inchoative and Iterative verbs).

Of these classes, 2, 3, 4, and 5 show a phonetic increase of the root; 6 and 7 being formed by the addition of distinct (pronominal) stems. Some, however (e. g. Schleicher and—though less positively—Curtius in his latest work²) regard

¹ It sometimes happens that two or more of these methods are employed in forming from the same stem verbs of a kindred signification, e.g. *ἐρυγ-γάνω*, *ἐρεύγω*—*τυγχάνω*, *τεύχω*—*πνιθάνομαι*, *πεύθομαι*—*λανθάνω*, *λήθω*, etc., etc. See Curtius, 'Tempora und Modi,' p. 81.

² 'Tempora und Modi,' pp. 67–123; 'Das Verbum,' I. pp. 227–265 (Engl. transl. pp. 160–186).

Classification of Present-stem.

4 and 5 as also exhibiting an additional pronominal element (*na*, *nu* or *n*, *ta* or *t*). In the absence, however, of *data* respecting the original development of these forms we must regard this as an open question: all that we can say is that, e. g. *τυπτο* (*τυπτε*), and *δεικνυ* are like *ἀγο* (*ἀγε*), fully developed, possibly nominal, stems as far back as we can trace the growth of language.

The Present-stem receives in all cases the primary form of the Person-endings: and under each of classes 1-4 fall Greek verbs of both principal conjugations (p. 168), affixing the terminations to the stem with or without the addition of a thematic vowel, e. g.:—

1. (Unaltered) *ἀγω* (*ἀγ-ο-μι*) and *ἐσ-μι*.
2. (Reduplicated) *πίπ(ε)τ-ω* (stem *πετ-*) and *τιθη-μι*.
3. (Vowel raised) *πειθ-ω* (stem *πιθ-*) and *εἰ-μι* (stem *ι-*).
4. (Nasalised) *πιτνά-ω* (stem *πετ-*) and *πετ-άνν-νυ-μι*.

Verbs of the remaining three classes (5, 6, 7) belong almost entirely to the ordinary or *-ω* conjugation, characterised by the thematic vowel. In Latin the other or *-μι* conjugation is almost lost, except in isolated forms like *es-t*, *vol-t*, *fer-t*, *i-mus*: and the ‘thematic’ or ‘connecting vowel’ characterises all Latin conjugation.

Formation of Present-stem.

I proceed to examine the different classes of Present-stem rather more in detail, following mainly the remarks of Curtius (‘Temp. und Modi,’ and ‘Das Verbum,’ as above).

1. Verbal-stem unaltered.

1. Curtius (‘Temp. und Modi,’ p. 74) suggests that among the ‘unaltered’ present-stems should be included verbs whose stems have undergone ‘strengthening,’ but in which the strengthened form has become stereotyped so to speak as the *only* existing or traceable form, and the unstrengthened form is quite obscured, e. g. *γεύω*, *δεύω*, *ἀλείφω*, *ἀμείβομαι*; and (with nasal) *jungo*, *prehendo*, *scando*, *incendo*: also *dūco*, *dīco*, *fīdo* (on the ground that their stem-vowel is only lengthened, not increased). He allows however that philologically these forms may be assigned to the third and fourth classes respectively: and it seems to be a needless hair-splitting not so to class them.

2. Reduplicated Present-stems.

2. Reduplicated Present-stems are rare in Latin, which (as

we have already seen in the case of the Perfect-stem) has retained this primitive method of strengthening but little: it seems that *gigno* (*gi-gen-o*), *si-sto* (= *i-στη-μι*), *sero=se-so* (stem *sa-* in *sa-tum*), and *bi-bo* are the only certain examples.

In Greek the vowel of the reduplicated syllable is generally *i* (not *e* as in perfect-stem, p. 188), e.g. *δι-δο-* (*δο-*), *i-στα=σι-στα*, *τι-θε* (root *θε-*, on change to *τ* see p. 50): *i-η-μι=yi-ya-mi*: *δίξημαι=διδύγημαι* (by assimilation, p. 76). Compare also *κι-χρημι* (*χρα*) ; and *δι-δη* (Il. xi. 105), *δι-δέντων* (Od. xii. 54), imperat. from a stem *δι-δη* (root *δε-* of *δέ-ω*) ; *βι-βάς* part. pres. stem *βα*: *πίμι-πλη-μι* and *πίμπρημι* (*πλα-* and *πρα-*) introduce a nasal into the reduplication. In these forms the final vowel of present-stem is often raised in the singular only, e.g. *δίκω-μι* but *δίδο-μεν*, *η-μι* but *ι-ε-μεν* : compare Sanskrit *da-dā-mi*, *dad-mas*, where *a* is lost.

In the ordinary conjugation we have *γίγ(ε)νω*, *πίπ(ε)τω*, *μίμρω=μι-μέν-ω*, to which Schleicher adds *ιξω=ιδυω* (p. 76)=*ιεδυω=sisedyo*, from root *εδ=sed*, see above on Latin *sido*. [But it would be simpler to rank *ιξω=ιδυω* in class six with suffix *ya*: for even if *sido* be rightly explained as above, it is not necessary to assume a precisely similar development in Greek from the same root *εδ=sed*.] *Γιγνώσκω*, *δι-δράσκω*, *τιτύσκομαι*, *πιφαύσκω* come also under class seven, being formed by addition of *σκ*. In the intensive forms *παιπάλλω*, *δαιδάλλω*, *ποιπνύω*, *δειδίσκομαι*, etc., the reduplicated syllable is intensified, no doubt as being the significant part of the word: but as the consciousness of the meaning conveyed by it was lost, emphasis was no longer laid on that syllable. On the contrary, it became weakened; and what was originally a formative element became merely mechanical, the intensive or frequentative or desiderative force disappearing altogether. Thus *μι-μέο-μαι* (root *ma-*, *με-*, in *me-t-iор*, etc.) originally=‘I frequently measure myself,’ i.e. by some one, and so ‘copy,’ ‘imitate,’ has entirely lost its frequentative force. Latin *imitor*, *imago* are possibly weakened forms of *mi-mi-tor*, *mi-ma-go*, formed on the same principle from the same root.

3. The vowel of the verbal-stem or root is raised irregularly 3. Vowel of Verbal-stem raised.

Formation
of Present-
stem.

in the pres. indic. of some primitive verbs, e. g. $\epsilon\bar{i}\text{-}\mu$, $\epsilon\bar{i}s$, $\epsilon\bar{i}\bar{i}$, $\epsilon\bar{i}\sigma i$; but $\bar{i}\mu\epsilon\nu$, $\bar{i}\text{-}\tau\epsilon$ (stem i): $\phi\eta\text{-}\mu\bar{i}$, stem $\phi a\text{-}$. The Latin stem $i\text{-}$ is raised to \bar{i} in $\bar{i}s$, $\bar{i}t$, $\bar{i}m\bar{u}s$, $\bar{i}t\bar{i}s$; but $\bar{e}o$, $\bar{e}\text{-}u\text{-}nt$.

In the ordinary conjugation of Greek verbs the raising is more regular throughout the present-stem, the unstrengthened form being often visible in 2 aor. (see pp. 199, 200), e. g. $\phi\epsilon\bar{u}\gamma\text{-}\omega$ ($\phi u\gamma\text{-}$), $\lambda\epsilon\bar{i}\pi\text{-}\omega$ ($\lambda i\pi\text{-}$), $\lambda\bar{h}\theta\omega$ ($\lambda a\theta\text{-}$), $\tau\bar{j}\kappa\omega$ ($\tau a\kappa\text{-}$), $\tau r\bar{o}\gamma\text{-}\omega$ ($\tau r a\gamma\text{-}$), $\pi\lambda\bar{w}\omega$, the two last having the second stage of intensification (see pp. 53, 54). Certain verbs in $-\epsilon\omega$ from stems in v have had the stem raised to ϵv , but the v of the stem has passed into the consonantal sound f , and has thus been lost in present-stem (as in gen. $\gamma\lambda u\kappa\epsilon\text{-}os=\gamma\lambda u\kappa\epsilon f\text{-}os$, see p. 119), remaining as v before a consonant in other parts of the verb. Thus $\rho\acute{\epsilon}\text{-}\omega=\rho\acute{\epsilon}f\text{-}\omega$, $\rho\acute{\epsilon}\text{-}\sigma\omega m\bar{a}i$ (stem $\rho v\text{-}$ in $\epsilon\rho\rho\bar{u}\text{-}\eta\nu$); compare also $\pi\lambda\acute{\epsilon}\text{-}\omega$, $\chi\acute{\epsilon}\text{-}\omega$, $\pi\nu\acute{\epsilon}\text{-}\omega$.

Curtius arranges the verbs under this head in two divisions; (a) those which exhibit completed strengthening by an *addition* of vowel sound, i. e. ϵi , ϵv from i , v ; as in $\dot{\alpha}\lambda\epsilon\bar{i}\phi\omega$ (cp. $\dot{\alpha}\lambda\bar{h}\lambda i\phi a$, $\lambda i\pi'$ $\dot{\epsilon}\lambda a\bar{i}\phi$, $\lambda i\pi a\bar{o}s$, etc.); $\epsilon\bar{i}\delta\omega m\bar{a}i$ (root $f\bar{i}\delta$); $\pi\epsilon\bar{i}\theta\omega$ ($\ddot{\epsilon}\text{-}\pi i\theta\text{-}o\nu$); $\kappa\epsilon\bar{i}\theta\omega$ ($\kappa\bar{v}\theta\epsilon$ aor., $\kappa\kappa\bar{v}\theta\omega s\bar{t}i$); $\pi\epsilon\bar{u}\theta\omega m\bar{a}i$ (Homeric, cp. $\pi u\theta\text{-}\epsilon\sigma\theta a i$ etc.); $\rho\acute{\epsilon}\omega$, $\chi\acute{\epsilon}\omega=\sigma\rho\acute{\epsilon}f\omega$, $\chi\acute{\epsilon}f\omega$ (cp. $\dot{\epsilon}\text{-}\rho\rho\bar{u}\eta\text{-}v$, $\ddot{\epsilon}\text{-}xv\text{-}t\bar{o}$, etc.): (b) those in which the strengthening only appears in the increase of quantity of the stem-vowel, e. g. a to \bar{a} or η (a being by its nature incapable of receiving additional vowel sound, see p. 53), as in $\lambda\bar{h}\theta\omega$ ($\lambda a\theta\text{-}$), $\tau\bar{j}\kappa\omega$ ($\tau a\kappa\text{-}$); or \bar{i} , \bar{v} to \bar{i} , \bar{v} (instead of to ϵi , ϵv), as in $\eta\bar{d}\omega m\bar{a}i$ (root $\sigma f\bar{a}\delta$ of $\dot{\alpha}\nu\delta\bar{a}\nu\omega$, cp. $\epsilon\bar{a}\delta\text{-}o\nu$, etc.), $\lambda\bar{h}\theta\omega$ ($\lambda\acute{\epsilon}\text{-}\lambda a\theta\text{-}o\nu$), $\tau\rho\bar{i}\beta\text{-}\omega$ ($\dot{\epsilon}\text{-}\tau\rho\bar{i}\beta\text{-}\eta\nu$), $\phi\rho\bar{u}\gamma\omega$ ($\dot{\epsilon}\text{-}\phi\rho\bar{u}\gamma\text{-}\eta\nu$)¹. This simple increase of quantity is all that is exhibited by the Latin present-stems which fall under this head—the weakness of the Latin vowel-system having all but extinguished diphthongs and made a full increase, such as from i , v to ϵi , ϵv , impossible. $D\bar{e}co$ (root of *in-dic-are*, Greek $\delta\bar{i}\kappa\text{-}\eta$) and $f\bar{i}l\bar{o}$ ($f\bar{i}l\bar{e}s$) are analogous forms to $\tau\rho\bar{i}\beta\omega$ ($\tau\rho\bar{i}\beta\eta$): but the change was probably much more formal and meaningless to the Romans than to the Greeks, who seem to have retained some consciousness of its purpose.

¹ Curtius ('Das Verbum,' I. pp. 218-226) enumerates fifty-eight Greek verbs under this class, giving to its two subdivisions the titles 'Diphthongische' and 'Monophthongische Zulaut.'

Sanskrit exhibits the same processes as Greek. Thus—
 i of root is raised to ē=ai: *sidh*, *sēdhāmi* (ep. *λιπ*, *λείπω*).
 u „ „ „ to ô=au: *ush*, *ōshāmi* ('burn,' ep. *φυγ*,
φεύγω).

Formation
of Present-
stem.

i is not raised to ī as in Greek īω: but u is sometimes raised to ū, e.g. *gūhāmi* ('veil,' ep. *κεύθω* and Zend *gaozaiti*).

4. The different results of the principle of Nasalisation in the formation of Present-stems may be thus arranged:—

4. Nasal
sound in-
serted.

(1) Nasal introduced into the body of the root, chiefly in Latin, e.g. *tango* (old form *tago*, pp. 199, 200), *pango* (older *pago*), *frango* (*fractus*, *fragor*), *fingo* (*fig-i*), *linguo*, *tundo*, *iungo* (*iugum*), etc., etc. This is common to Latin and Sanskrit [ep. e.g. *yu-ná-g-mi* 1st sing., *yu-n̄g-más* 1 plur. with Latin *iu-n-go*, *iungimus* from root *YUG* (*iug*)], but almost unknown in Greek; *σφίγγω* (*σφιγ-μός*), *ἔλέγχω* being perhaps the only cases where it alone is employed, though it is combined with a nasal syllable in a good many stems, such as *λαμβ-άν-ω*, *θιγγ-άν-ω* (*λαβ-*, *θιγ-*), for which see below.

(2) Nasal appended to the root:—

Appended.

(a) After vowels—*πίν-ω*, *τίν-ω*, *ϕθίν-ω*, *ϕθάνω*, *δύνω* as compared with *ἐπιον*, *τίω*, *ἐφθι-το*, *ϕθά-μενος*, *δύ-ω*. The roots *γεν*, *τεν*, *μεν*, *ϕεν* (in *γέ-γον-a*, *τόν-os*, *μέ-μον-a*, *ϕόν-os*) are perhaps nasalised forms of still older roots which appear in the forms *γέ-γα-a*, *τα-τός*, *μέ-μασ*, *πέ-φα-ματi*. In *κρίνω* and *κλίνω* the nasal passes into other tenses also.

(b) After consonants—*κάμν-ω* (*ἐ-καμ-ον*), *δάκ-νω*, and *τέμνω*; *sperno*, *temno*, *pōno=poσno*, *posin-o* (*positus*).

(3) Addition of nasal syllables—*νε*, *να*, *νη*, *νν*, and *αν*, e.g. *ἰκνέ-ομαι*, *κννέ-ω*, *οἰχνέ-ω*; *κιρνά-ω*, *πιτ-νά-ω*, *δεικα-νά-ο-μαι* (*κεράν-*
νυμι, *πετάν-νυμι*, *δείκνυ-μι*); *ζεύγνυ-μι*, *ρήγ-νυμι*, *ὅλλυμι=ὅλνυμι*,
σκίδνημι, *κίρνημι*; *ἴκαν-ω*, *αὐξάνω*, *ἀμαρτάνω*; and (with inserted
 nasal also) *λαμβ-άνω*, *θιγγάνω*, *χανδάνω*, etc.

Schleicher (Comp. § 293) regards these nasal syllables as pronominal additions. Curtius¹, on the other hand, considers *na*, *nu* as primitive stem-forming syllables, 'about which little else can be said than that they are used to make other stems besides

¹ 'Das Verbum,' I. p. 157 (Engl. transl. p. 108).

Formation
of Present-
stem.

verb-stems.' Thus the formation of *ὅρνυμεν*, *σκιδναμεν* may be compared with that of *ઉન્વોસ*, Lat. *som-nu-s=sop-nu-s*, Skt. *svap-na-s*; or Skt. *dhrishnú-s*, 'bold,' ep. with *dhrish-nó-mi*, 'I am bold' (root *dharsh*, *θίρσος*), to which would correspond in Greek (did such forms exist) *θαρσ-νν-ς*, *θαρσ-νν-μι*. Nonn-themes in *na*, *nu* seem to have had the force of 'nomina agentis' in Skt. Curtius, regarding the nasal syllable appended (2) as earlier in time to the nasal syllable inserted (1), thinks that the latter may be due to an anticipation (*Vorklingen*) of the affixed nasal: so that e. g. **λαβ-νω*, **λαβ-ανω* became *λα-μ-β-άνω*; ep. the ordinary form *τύμπ-ανον* with the (? earlier) form *τύπ-ανον* (*κροτάλων τυπάνωντ'* *ἰαχή* Hymn Hom. xiv. 3)—if this latter be not a variety *metri gratia*.

5. Addition
of *t* sound.

5. The strengthening of the verbal-stem by addition of the dental tenuis *t* is chiefly found in Greek: e. g. in two verbs only after a vowel, viz. *ἀντώ* and *ἀρντώ* (Attic for *ἀνώ*, *ἀρώ*); in two after a guttural, viz. *πέκτω*, beside *πείκω* and *πέκω*, and *τίκτω* (stem *τεκ-*); and often after labials, *β* and *φ* being changed by assimilation to *π* (p. 74), e. g. *βλάπτ-ω* (*βλάβη*, Epic *βλάβ-εται*), *καλύπτ-ω* (*καλύβη*), *τύπτ-ω* (*έτυπη*), *έρέπτ-ω* (later form for *έρέφ-ω*), *θάπτ-ω* (*τάφος*), etc. The only analogous forms in Latin are *pect-o*, *fleet-o*, *nect-o* (*nexui = nec-s-ui*), *plect-o* (*πλέκω*). Schleicher regards the *t* as a pronominal stem *ta*: but it is more probably a purely phonetic increase of sound, as e. g. in *πτόλις*, *κτείνω*, *πτόλεμος*, beside *πόλις*, *καίνω*, *πόλεμος*; compare *ઉપરિયોસ* from stem *ઉપ-*, Latin *super-*.

6. Addition
of *ja* (j).

6. The insertion of *ya* between stem and person-ending, which is the characteristic of the fourth class of verbs (chiefly intransitive), and also of the passive conjugation (see p. 177) in Sanskrit, appears in many Greek and Latin verbs. The *y* sound seems to have been uneogenous to Greek organs of speech; accordingly it is, generally speaking, either vocalised into *u* or passes by assimilation into some other sound. The forms which it assumes may be thus arranged:—

(1) *y* (j) sound appears as a vowel:

(a) As *u*, in *ἰδίω* (Sanskrit *svidyāmi*, compare *iδρώς=σιδρ-ρως*), *μην-ι-ω* (root *μαν-*), *έσθ-ι-ω* (Hom. *έσθ-ω*, strengthened from *έδ-ω*).

In Greek:
j as vowel;

The *i* is sometimes long (*μηνίεν*, Il. ii. 769: compare Aesch. *Formation of Present-Eum.* 101): so that these forms should be reckoned parallel to stem by *git*. Latin *audīre*, etc. (*i*=*ij*, see below).

(b) As *ε*, in δοκ-έ-ω, γαμ-έ-ω, κυρ-έ-ω (*κύρ-ω*, *κύρ-σω*), πατ-έομαι (*έ-πασ-άμην*, *παστός*), φιλέω (Epic *φῖλαι* and *έφιλατο*), στυγέω (*έ-στυγ-ον*), the -εω of these verbs, which in other forms exhibit a shorter stem, being different from the -εω of ordinary derivative verbs (see Appendix B to ch. v. pp. 103, 104), though probably the distinction was forgotten.

(ii) The *y* sound (vocalised into *i*) appears in a diphthong *y* as *i* in a diphthong:

(a) Combined with the final vowel of a stem—δαιώ, root δā, ‘divide,’ or du (*dah*), ‘burn,’ (so έ-δά-η), μαί-ομαι (*μά-σομαι*, *έμασίμην*), ναίω (*ένασσα*), καίω (Attic *κάω*, fut. *καύσω*, stem *καF*), κλαίω, ὀπνίω (*όπν-σω*).

(b) Thrown back *within* the stem and combined with its vowel (as e. g. in ἀμείνων=ἀμεινών, μέλαινα=μελάνια, σώτειρα=σωτέρια, and many others): thus φαίνω=φάν-γω (*έ-φάν-ην*), κτείνω=κτένγω (*έ-κτον-a*), μαίνομαι (another formation from root *μαν-*, see *μην-i-ω* above: and so with many verbs ending in -μανω, derivatives from nouns in -μα(τ)=an older -μαν, e. g. ὄνομαίνω, δειμαίνω, θαυμαίνω; τεκμαίρ-ομαι (*τέκμαρ*), καθαίρω (*καθαρός*), ίμείρω (*ίμερος*); αἴρω, εἴρω, (Latin *sero*), φθείρω (*έφθάρ-ην*), χαίρω (*έχάρ-ην*), κρίνω (*κρύν-ω*, fut.).

(iii) The *y* sound passes into a double consonant by assimilation (*y* as consonant by assimilation. see above, p. 75):

(a) By pure assimilation from λγ to λλ, e. g. ἄλλομαι (Latin *sal-i-o*), στέλλω (*έ-στάλ-ην*), σφάλλω=σφάλγω (*έ-σφάλ-ην*), βάλλω (*έ-βαλ-ον*), ὀφέλλω=όφελγω, which also passes into ὀφεῖλω (II. b, above).

(b) From κγ, χγ, γγ, τγ, θγ to σσ, e. g. φυλάσσω (*φυλάκ-γω*), ταράσσω (*ταράχ-γω*, compare *ταραχ-ή*), ἀλλάσσω (*ἀλλάγ-γω*, compare *ἀλλαγ-ή*), λίσσομαι (*λίτγο-μαι*, compare *λιτ-ή*), κορύσσω (*κορύθγ-ω*, *κόρυθ-ος*). The process of change in these cases has already been described, ch. iv. p. 75. Full lists of forms in illustration are given by Curtius ('Das Verbum,' I. pp. 311-317). In noun forms we may compare ήσσων=ήκγων (*ήκ-ιστος*), ἐλάσσων

Formation
of Present-
stem by *ya*
(*ja*).

= ἐλάχγων (ἐλάχ-ιστος), Κῆλισσα = Κῆλικγα, χαρίεσσα = χαρίεντ-γα : the two latter showing the feminine suffix *ya*, which in μέλαινα, σώτειρα, etc., noticed above, passes back into the stem as the *i* sound of a diphthong (II. b).

(c) From δγ (and sometimes γγ) to ζ : e. g. ἔζομαι (ἔδγομαι, root ἔδ- of ἔδ-ος, *sedes*), ὅζω (ὅδ-ωδα), φράζω (πέφραδ-ον), σχίζω (root σχιδ in σχίδη), κλύζω (κλύδων) : also κράζω (=κράγγω, ep. κέ-κραγ-α), στάζω (σταγ-ῶν), βέζω (ἔρεξα = ἔρεγσα, βέχθειν, etc.), ἐλείζειν (ἐλελίχ-θη).

j (*i*) in Latin
Present-
stem. In Latin the *i* sound remains, e. g. in verbs in -io of 3rd conjugation before *o* and *u* (*capi-o*, *capi-unt*) and the conjunctive *a* (*capi-ant*), and so-called fnt. indic. *e* (*capi-ent*). Where the thematic vowel becomes *i*, the two coalesce (*capis*, *capit*, *capimus*, *capitis*). We should have expected *i* throughout : and *capis* and *capit* were probably the original quantities ; *capimus* and *capitis* arising partly from analogy with *capio*, *capiunt*, partly from the general tendency to shorten an unaccented syllable, aided by the desire to distinguish the forms from those of the 4th conjugation of derivative stems in *ī* (*audīmus*, *audītis*, etc.). Other Latin verbs of this class are, e. g. *jaci-o* (*jac-tus*), *fodi-o* (*fossus=fod-tus*), *fugi-o* (*fūg-i*), *aio=agy-o* (root *ag* in *ad-ag-iūm*, etc., etc. In *ero=esio*, a present formation from the root *es* (compare ἔσομαι for ἔσ-συομαι), the *i* sound has disappeared before *o* and *u*. Assimilation analogous to that observed in Greek is possibly seen in *pello* (*πάλλω*, *pe-pul-i*) = *pel-yo*, *percello*, *tollo* (*te-tul-i*), *vello*, *fallo*, *curro*, etc. But this kind of assimilation is not familiar to Latin, which e. g. keeps *sali-o* beside Greek *ἄλλομαι*, *alius* beside *ἄλλος*, *medius* beside *μέσσος*, *melior* beside *μᾶλλον* : and it is possible that in these and similar forms with *ll*, *rr*, we have a doubling and so increase of the consonantal sound with the same object as that of the vowel increase in verbs of class 3 (p. 206).

'Derivative'
Verbs with
suffix *ya*
not includ-
ed under this
head of Pre-
sent-stem.

[N.B. In this class have been included only those verbs in which the suffix *ya* appears to have been used in the formation of the present-stem from a verbal-stem, which latter is traceable in other forms of the verb. From these must be

distinguished a common formation of derivative verb-stems by the addition of the same suffix *ya* to nominal stems, in the conjugation of which the *i* sound (or its effects) is retained throughout all tenses¹. These are in Greek the ‘contracted’ verbs in *-aω*, *-εω*, *-oω* (from an original *-ayω*, *-eyω*, *-oyω* = Sanskrit *-ayāmi*, the regular termination of one class of verbs (10th) in Sanskrit) from which the *y* sound has dropped, e.g. *τιμάω*=*τιμάjω*, from noun-stem *τιμα-*; *φορέω*=*φορεyω*, from stem *φορε-* (*φορο-*); *δρθόω*=*δρθοy-ω*, from stem *δρθο-*. Corresponding formations in Latin are the ordinary 1st and 2nd conjugations, and verbs in *u-o* of the 3rd, e.g. *amo*=*amao*, from *amayo*; *moneo*, from *moneyo*; *statuo*, from *statuyo*: the *ā*, *ē* of the 1st and 2nd being the result of combination with the connecting-vowel, as in the contracted forms *τιμᾶμεν*=*τιμά-o-μεν*, *φοροῦμεν*=*φορέ-o-μεν*; while in the *-uo* forms (= *-oω*), the vowels remain uncombined (*statuīs*, *statui-mus*), except in the supine stem (*statūtum*=*statu-i-tum*). Greek verbs in *-iω* (-*i-yω*) where *i* remains through all tense-stems, e.g. *iδίω* (root *iδ*), *μηνίω*, *κονίω*=*κονίy-ω*, seem parallel to Latin 4th conjugation forms in *-io* as compared with 3rd conjugation *cupio*, etc.: and the long *ī* found in some of them (*κονīω*, *μηνīω*) shows a contraction of *i* sound with another vowel. The terminations *-aζω*, *-oζω*, *-iζω* probably contain the suffix *ya* assimilated (see p. 76): and in *-aνω*, *-ūνω* (*λειαίνω*, *θαρσύνω*) the *i* sound is thrown back into the stem as above in 11 b. Latin desiderative forms in *-tur-io* are formed from nominal stems in *-tor* by addition of *ya* (*i*), e.g. *partur-i-o* (*partor*), *ēsuriō*=*ed-turio*.]

7. The verb-forms in *-σκω*, *-scō* (‘Inchoative’ verbs)² are especially interesting because we can in this case prove a particular meaning for the additional element in the present-stem, such special meaning having (as already pointed out) been lost sight of in the other forms that have been discussed. The Inchoative (or Inceptive) meaning is obvious in many verbs both Greek and Latin (especially the latter), e.g. *γηρά-σκω* (ep. *sene-sc-o*), *ήβά-σκω* (*pube-sc-o*), *ἀναβιώ-σκ-o-μαι* (*revivi-sc-o*);

¹ See Appendix B to Chap. v. pp. 103, 104.

² See Curtius, ‘Elucidations,’ pp. 141–144.

Formation
of Present-
stem by σκ-
(sc.).

and can be traced in many others, e. g. *μι-μνή-σκ-ω* (*re-min-i-scōr*), *ἀλδή-σκ-ω* (ep. *adole-sc-o*), *γι-γνώ-σκ-ω* (= *gnōsco*), and *δι-δά-σκ-ω*, ‘I make to learn,’ which is the correlative (with causal sense) of *di-sc-o*, ‘I learn.’ In other forms (e. g. *βλώσκω*, *θρώσκω*, *paciscor*, *ulciscor*) there is no historical trace of the meaning. The ‘Iterative’ forms of imperf. and aor. in *-σκον*, common in Homer, are an isolated preterite of this formation of the present, e. g. *ἔχε-σκ-on*, *ἴδε-σκ-on*, *μένε-σκ-on*, etc. Curtius (Elucidations, pp. 142, 143) explains the connection between the two thus:—The Inchoative meaning consists essentially in the fact that the action comes to pass *gradually*; and the gradual realization (which language originally intended to denote by these present-forms) and the repetition of an action were regarded by language as nearly akin. Hence these iterative forms in *-σκον* are the opposite to the sudden ‘momentary’ action of the aorist.

Connection
between
Greek and
Latin Incho-
ative forms.

The forms in *-σκω*, *-scō* are also interesting as showing the especially close connection between the Greek and Latin branches of the Indo-European family. Sanskrit has something like it in the addition to a very few verbs of *chh*, the regular representative of *sk* in Indian languages¹: but there is no trace of that specific meaning of the additional element which in the two classical languages is retained to so great an extent as to give the name ‘Inchoative’ to the class of verbs. The mode of adding the *σκ-*, *sc-*, is also very similar in the two languages: ‘We need only compare (*g*)*no-sc-o*, (*g*)*na-sc-or*, *erc-sc-o* with *γι-γνώ-σκ-ω*, *πι-πρά-σκ-ω*, *κι-κλή-σκ-ω*, the derivative *ἡβά-σκ-ω*, *γηρά-σκ-ω* with Latin *ira-sc-or*; *ἀλ-ί-σκ-ο-ματ*, *στερ-ί-σκ-ω* with Latin *ap-i-sc-or*, *pac-i-sc-or*; and *διδά-σκ-ω*, *λά-σκ-ω*, in which a guttural (i. e. of stem *διδαχ-*, *λακ-*) is lost with *disco* (ep. *doc-eo*), to perceive that the laws of formation are the same.’ Both languages unite the Inchoative element to a consonantal stem by the intervention of a thematic (connecting) vowel (*i*, *i*, or *e*); but whether Curtius’ statement ‘that the genius of language, which is ever intent on delicate distinctions, has separated

¹ Thus from root *gam* (go) is formed *gachhā-mi*; from *ish* (wish) *ichha-mi*; from *yam* (restrain) *yachhā-mi*. These forms stand for *gaskami*, etc.; *chh* representing *sk*, as in *chāyā* (shade), Greek *σκιά*.

the Iterative forms from the Inchoatives, at least in part by Formation of Present-
the connecting (thematic) vowel,' is sufficiently borne out by stem by $\sigma\kappa-$
the evidence, may be doubted. Language may sometimes avail itself of purely euphonic differences to express differences of meaning (as e.g. with the variations of the *a* sound, p. 36); but the thematic vowel is not purely euphonic (pp. 165, 166), nor is there any proof of its being so used here.

The origin of the element $\sigma\kappa-$, *sc-* is unknown.

Imperfect (Greek).

Formed from the present-stem by prefixing the augment, Formation of Imperfect in Greek, with secondary person-endings: e.g. (*a*) with connecting-vowel,

$\check{\epsilon}\text{-}\phi\epsilon\rho\text{-}o\text{-}\nu$, $\check{\epsilon}\text{-}\phi\epsilon\rho\text{-}\epsilon s$, etc., 3 plur. $\check{\epsilon}\text{-}\phi\epsilon\rho\text{-}o\text{-}\nu=\check{\epsilon}\phi\epsilon\rho o\nu\tau$: (*b*) without connecting-vowel, $\check{\epsilon}\tau i\theta\eta\text{-}\nu$, $-\eta\text{-}\varsigma$, $-\eta(\tau)$, (stem-vowel raised in singular), 1 plur. $\check{\epsilon}\text{-}\tau i\theta\epsilon\text{-}\mu\epsilon\nu$, 3 plur. $\check{\epsilon}\text{-}\tau i\theta\epsilon\text{-}\sigma\alpha\nu$ (a compound formation, see p. 176). From $\epsilon i\mu i$ are found two forms of imperfect, (*a*) $\check{\epsilon}\sigma\alpha\text{-}\check{\epsilon}\sigma\text{-}o\text{-}\nu$, with connecting-vowel and augment omitted; (*b*) $\hat{\eta}\nu$, $\hat{\eta}$. Sanskrit forms from the corresponding stem *as-* a 1st preterite $\bar{a}\text{-s-a-m=}\bar{a}\text{-a-s-a-m}$, the vowel *a* being appended to the stem to make the inflection easier. This appears in another form of 1 sing. imperf. from $\epsilon i\mu i$ ($\check{\epsilon}\sigma\text{-}\mu i$), viz. $\hat{\eta}a=\hat{\eta}\sigma a$ (Ionic $\check{\epsilon}a$ without augment, as in Il. iv. 321, whence Attic $\hat{\eta}$), and in 3 plural $\hat{\eta}\sigma a\nu=\bar{a}\text{-sant}$, or $\check{\epsilon}\sigma a\nu=\bar{e}\text{-rants}$: $\bar{e}\bar{r}\bar{a}\bar{m}$, $\bar{e}\bar{r}\bar{a}\bar{s}$, &c. cannot correspond to $\bar{a}\bar{s}\bar{a}\bar{m}$, but have some analogy with the Homeric form $\check{\epsilon}\eta\nu$. The stem $\check{\epsilon}a=\check{\epsilon}\sigma a$ (with augment $\hat{\eta}a=\check{\epsilon}\text{-}\epsilon(\sigma)a$) became in time $\check{\epsilon}o$, $\check{\epsilon}\epsilon$, the *a* adopting the analogy of the thematic vowel: hence, with the secondary termination $-\nu$, $\check{\epsilon}o\text{-}\nu$, partic. $\epsilon\omega\nu=\epsilon o\text{-}\nu\tau$, &c.: or (from $\check{\epsilon}\epsilon$) $\check{\epsilon}\epsilon\text{-}\nu$, $\hat{\eta}\nu$). Putting these forms together, we have—

1 Sing. $\bar{a}\text{-s-a-m}$,	$\hat{\eta}a=\hat{\eta}\sigma a(\mu)$,	$[\hat{\eta}\nu$ ($\check{\epsilon}\eta\nu$ Hom.),	[$\bar{e}\bar{r}\bar{a}\bar{m}$,
2 „ $\bar{a}\bar{s}$ (Vedic),	$\hat{\eta}\sigma\text{-}\theta a$,		$\bar{e}\bar{r}\bar{a}\bar{s}$,
3 „ $\bar{a}\bar{s}\text{-t}, \bar{a}\bar{s}$ (Ved.), $\hat{\eta}\epsilon=\hat{\eta}\sigma\text{-}\epsilon$, $\hat{\eta}\epsilon(\nu)$,	$\hat{\eta}\nu$ ($\hat{\eta}s$ Doric),		$\bar{e}\bar{r}\bar{a}\bar{t}$,
1 Plur. $\bar{a}\bar{s}\text{-ma}$,	$\hat{\eta}\mu\epsilon s$,		$\bar{e}\bar{r}\bar{a}\bar{m}\bar{u}s$,
2 „ $\bar{a}\bar{s}\text{-ta}$,	$\hat{\eta}\tau\epsilon]$,		$\bar{e}\bar{r}\bar{a}\bar{t}\bar{i}s]$,
3 „ $\bar{a}\bar{s}an(t)$,	$\hat{\eta}\sigma a\nu(\tau)$ or $\check{\epsilon}\sigma a\nu(\tau)=\bar{e}\bar{r}\bar{a}\bar{n}t$.		

A similar formation in Latin from the stem *fu-*, i.e. *fu-am*, is generally supposed to survive in the termination *-bam* of the Latin composite imperfect (see below, p. 224). In Sanskrit the

vowel **a** is *always* raised to **ā** before **m** or **v** of the person-endings (e.g. *bhar-ā-mi*, *bhar-ā-vas*, *bhar-ā-mas* of 1st sing. dual and plur.: but *bhara-si*, *bhara-ti*, etc. throughout the rest of the pres. indicative).

Relation of
Weak to
Strong
Aorist.

4. *The Weak or Compound Aorist* (1 aor.).

1. The function of this tense is the same as that of the Strong Aorist, viz. the expression of momentary action in past time. But whereas the Strong Aorist is formed in general only from verbs which form a present-stem distinct from the pure verbal-stem (see p. 200), the Weak Aorist is formed from all verbs whose present-stem is the same as the pure verbal-stem (e.g. *ἀρχω*, *λέγω*, *γράφω*), or a nominal-stem increased by *j* (e.g. *ἔλπιξω*, *φυλάσσω*, *τελέω*, pp. 208–210). Comparatively few verbs, e.g. those with vowel-raising or dental suffix in the present-stem (above, pp. 206, 208), as *πείθω*, *λείπω*, *τύπτω*, and several verbs in *-μι*, have both forms of aorist: and in some cases where both forms are found, they are used to denote an intransitive or neuter, and a transitive or active meaning respectively, e.g. *ἔστην*, *ἔστησα*; *ἔβην*, *ἔβησα*. Many verbs, however, along with the weak aorist form, exhibit a so-called 2 aorist pass. formed from the simple or strong aorist-stem with the addition of *ε*, *η* (see p. 226): e.g. *ζεύγνυμι*, *ἔζευξα*, *ἔζύγην*: *βλάπτω*, *ἔβλαψα*, *ἔβλάβην*. In the later periods of the language the newer form, i.e. the weak or compound aorist, the use of which had become widely extended with verbs from which it was impossible to form a simple aorist (e.g. the large class of derivative verbs in *-ω*, *-εω*, *-οω*, *-ευω*, *-ιζω*, *-αιω*, *-υνω*, etc.), appears to have superseded the older form, even where the conditions for a strong aorist formation were found, e.g. *βλάπτω*, *ἔβλαψα*, but not *ἔβλαβον*.

2. *Formation of the Weak Aorist*¹. The distinctive mark of

¹ The characteristic of this formation being the letter *σ*, it is sometimes called the ‘sigmatic’ aorist. This element *s* (*σ*), representing the root *as* (*εσ-*) of the substantive verb, enters into verb-formation in various ways: (1) in single person-endings, such as Greek *ἔδο-σαν* (p. 176); (2) in a preterite or aorist form—the ‘weak’ aorist in *-σα*; (3) in a perfect stem in Latin *-si* (p. 196); (4) in the pluperfect of Greek and Latin, *ἡδε-(σ)a*, *vide-ram* (p. 223); (5) in ‘futurum exactum,’ *λελύ-σομαι*, *solve-ro* (p. 224); (6) in the Greek future in *-σω=s+ya* (p. 213), and the Latin future

this tense (besides the augment, which it shares with other forms) is σ , or more commonly σa . Traces of the first are seen in the Homeric conjunctive forms with short \circ ($\epsilon\acute{a}\sigma oμe\nu$, $\phi uλά\xi o-$ Stem $as-$, $\mu e\nu$, etc., which are non-thematic; the ω , η of ordinary conjunctive forms being the result of coalescence of the conjunctive mood-sign \circ (a) with the ‘thematic vowel’ of ordinary stems, extended by analogy to non-thematic forms ($\tilde{\iota}ωμe\nu$ ep. with the Homeric and truer form $\tilde{\iota}oμe\nu$). The second formation in σa is common to all Greek dialects. This ‘sigmatic’ element is generally traced to the 1st preterite of the verbal stem $as-$ ($\bar{a}sam$, $\bar{a}s$, $\bar{a}st$, see above, under head of Imperfect, p. 213) added to the pure verbal-stem like an auxiliary verb; the initial a of as disappearing as in Sanskrit ($a)sma_s, Latin ($e)sum$; and the nasal μ or v in 1 sing. falling away, as it does in acc. sing. $\pi\acute{o}\delta a=pādām$, $pedem$. This retention of a becomes characteristic of the weak aorist, as of the perfect, the only regular exceptions being 3 sing. indie. aet. $\epsilon\delta e\xi\xi e$ and 2 sing. imper. act. $\delta e\xi\xi oν$. There is, however, reason to suppose that the \ddot{a} (as in the case of the perfect, see above, p. 193) was originally confined to 1 sing. and 3 plur. (primitive $-am$, $-ant$, Greek \ddot{a} , $\ddot{a}v$), and was gradually extended by analogy to the other person-endings, to the Middle forms, and to Infinitive and Participle; the conjunctive, however, being always formed without it.$

This supposed ‘auxiliary’ formation of the Sigmatic Aorist has much to recommend it, though the parallel sometimes adduced from Sanskrit a -dik-sham (sh euphonic for s) is erroneous; the corresponding Greek form to this being $\epsilon\delta i\xi oν$. It is difficult, however, to see any essential difference between this formation and that of the perfect stem in $-ka$; and why should not σ , \ddot{a} of the aorist be ‘stem-forming’ additions to the verbal stem, analogous to κ , \ddot{a} of the perfect? $\tilde{\epsilon}-\beta\eta\sigma-\ddot{a}$ and $\beta\acute{\epsilon}-\beta\eta\kappa-\ddot{a}$ would then stand in precisely analogous relations to the stem as seen in $\tilde{\epsilon}-\beta\eta-v$: and no further explanation of the σ would be necessary than of the κ (above, pp. 193, 194).

formations in $-so$, $-sim$, $-sere$ (p. 221); (7) in the Latin subjunctive forms $lege-re_m$, $lege-rim$, $legi-ssem$ (p. 227); (8) in desiderative formations, e.g. Sanskrit $pi\bar{p}i-sha-ti$, ‘he wishes to drink,’ cp. Greek $\delta\rho a-\sigma e i\omega$, Latin $vi-so$.

Formation
of Weak
Aorist.

The double σ common in Homeric forms may sometimes be explained by the first σ being part of the verb-stem, e.g. $\tilde{\epsilon}\sigma\sigma\alpha$ from $\tilde{\epsilon}\nu\nu\mu=\tilde{\epsilon}\sigma\nu\mu$, root $\tau\epsilon\varsigma$; $\tilde{\epsilon}\delta\kappa\alpha\sigma\sigma\alpha$, $\kappa\mu\sigma\sigma\alpha$, and similar forms from verbs in $-\zeta\omega$, where the first σ is due to assimilation of final δ ; $\delta\alpha\sigma\alpha\sigma\theta\alpha i=\delta\alpha\tau-\sigma-$, stem $\delta\alpha\tau-$; and perhaps $\tilde{\epsilon}\tau\ell\epsilon\sigma\sigma\alpha$ from stem $\tau\hat{\epsilon}\lambda\epsilon\varsigma$, the full form being lost in pres. $\tau\epsilon\lambda\epsilon\omega$. It is more probable however that in this last case, and possibly in some of the others, $\sigma\sigma$ is due to the epic licence which we see in $'\Omega\delta\nu\sigma\sigma\epsilon\acute{v}s$ beside $'\Omega\delta\nu\sigma\epsilon\acute{v}s$, etc.; and this is certainly true of the forms with double σ from vowel-stems, $\tilde{\epsilon}\lambda\alpha\sigma\sigma\alpha$, $\kappa\tau\epsilon\sigma\sigma\alpha\theta\alpha u$, etc.

With stems in λ , ρ , μ , ν the laws of Greek euphony did not preserve the σ of the weak aorist in contact with these consonants (except $\rho\sigma$ in a few Epic forms, $\tilde{\epsilon}\kappa\rho\sigma\epsilon$, $\kappa\rho\sigma\alpha$, $\phi\rho\sigma\omega$, $\hat{\omega}\rho\sigma\alpha$; and $\lambda\sigma$ in one form $\tilde{\epsilon}\kappa\epsilon\lambda\sigma\alpha$, which survived to later times). In Aeolic the σ was assimilated (p. 74) to the stem-consonant, e.g. $\tilde{\epsilon}\nu\epsilon\mu\mu\alpha\tau o$, $\tilde{\epsilon}\sigma\tau\epsilon\lambda\lambda\alpha\tau$, $\tilde{\epsilon}\gamma\epsilon\nu\nu\mu\alpha\tau o$, $\tilde{\epsilon}\tau\epsilon\nu\nu\alpha$ (cp. Homeric $\tilde{\epsilon}\phi\epsilon\lambda\lambda\alpha$), and possibly this may have been the older process. Other dialects dropped the σ and lengthened the stem-vowel in compensation; e.g. $\tilde{\epsilon}\nu\epsilon\mu\mu\alpha=\tilde{\epsilon}\nu\epsilon\mu-\sigma\alpha$, $\tilde{\epsilon}\sigma\tau\epsilon\lambda\lambda\alpha=\tilde{\epsilon}\sigma\tau\epsilon\lambda-\sigma\alpha$, $\tilde{\epsilon}\gamma\epsilon\epsilon\nu\nu\mu\alpha\tau o=\tilde{\epsilon}\gamma\epsilon\nu-\sigma\mu\alpha\tau o$. In Doric this was a pure lengthening of the vowels a , ϵ ; e.g. $\tilde{\epsilon}\phi\bar{\alpha}\alpha$, stem $\phi\alpha\tau-$; $\tilde{\alpha}\gamma\gamma\eta\lambda\alpha$, stem $\alpha\gamma\gamma\epsilon\lambda-$: Ionic and Attic raised a to η , and ϵ to $\epsilon\iota$, e.g. $\tilde{\epsilon}\phi\eta\eta\alpha$, $\tilde{\alpha}\gamma\gamma\epsilon\lambda\alpha$; ι and ν were simply lengthened in all dialects, e.g. $\tilde{\epsilon}\tau\bar{\iota}\lambda\alpha$, $\tilde{\eta}\mu\bar{\iota}\alpha$.

The forms $\tilde{\epsilon}\bar{\iota}\pi\alpha$, $\tilde{\eta}\nu\epsilon\gamma\kappa\alpha$ stand alone as unsigmatic forms with \check{a} , side by side with the reduplicated aorists $\tilde{\epsilon}\bar{\iota}\pi\alpha\tau o$ and $\tilde{\eta}\nu\epsilon\gamma\kappa\alpha\tau o$. The \check{a} in these forms simply represents the ϵ or σ of the ordinary thematic vowel; and whatever were the influences which at first led to preserving the stronger sound, the analogy of weak aorist forms like $\tilde{\eta}\gamma\gamma\epsilon\lambda\alpha$, $\tilde{\epsilon}\nu\epsilon\mu\mu\alpha$ no doubt helped to perpetuate it.

The forms $\tilde{\epsilon}\sigma\sigma\epsilon\alpha$, $\tilde{\epsilon}\chi\epsilon\alpha$ (cp. $\tilde{\epsilon}\kappa\eta\alpha$, $\dot{\eta}\lambda\epsilon\acute{v}\alpha\tau o$), for which loss of σ has sometimes been supposed, are the active forms corresponding to $\tilde{\epsilon}\sigma\sigma\acute{v}-\mu\eta\tau o$, $\tilde{\epsilon}\chi\acute{v}-\mu\eta\tau o$, the \check{a} of 1 sing. representing a primitive $-v$ of secondary inflection. The primitive form was thus e.g. $\tilde{\epsilon}\chi\epsilon\tau\acute{v}-v$, $\tilde{\epsilon}\chi\epsilon\tau\acute{v}-s$, $\tilde{\epsilon}\chi\epsilon\tau\acute{v}(\tau)\dots\tilde{\epsilon}\chi\mu\mu\epsilon\tau\acute{v}$, $\tilde{\epsilon}\chi\tau\acute{v}-\tau\epsilon$, etc., the stem-vowel being strengthened in the singular, as in some perfects (above, p. 190), and as in certain Sanskrit forms; e.g. from root $v\mu$,

arāvam, *arōs*, *arōt* . . . plur. *aru-ma*, etc. $\epsilon\chi\epsilon ov$ (I sing) became ^{Formation of Weak} *εχεva*: the *ă* was then extended through all the persons of the Aorist. active, and the old plural with unstrengthened root-vowel ($\epsilon\chi v-\mu\epsilon v$, etc.) gave way to forms on the analogy of the singular ($\epsilon\chi\epsilon\bar{v}-\mu\epsilon v$, etc.)¹.

A few sigmatische aorist forms (chiefly Epic) exhibit the weaker vowels ϵ , σ in place of a ; e. g. $\alpha\acute{e}i\tau\epsilon o$, $\ddot{\alpha}\xi\epsilon\tau\epsilon$ (imperative), $\theta\acute{y}\sigma\epsilon\tau o$, $\delta\acute{y}\sigma\epsilon\tau o$, $\tilde{\iota}\xi\epsilon\nu$ and $\tilde{\iota}\xi\sigma\nu$ (3 pl.), $\lambda\acute{e}\xi\epsilon o$, $\sigma\tilde{\iota}\sigma\epsilon\tau\epsilon$ (imper.), $\ddot{\sigma}\rho\sigma\epsilon o$, $\pi\epsilon\lambda\acute{a}\sigma\sigma\epsilon\tau\sigma\nu$ (imper.), $\tilde{\epsilon}\chi\epsilon\sigma\sigma\nu$ (ep. $\tilde{\epsilon}\chi\epsilon\sigma a$, $\chi\acute{e}\sigma\tau\mu i$, etc.): Curtius would add $\tilde{\epsilon}\pi\epsilon\sigma\sigma\nu$, the so-called strong or 2nd aorist of $\pi\acute{i}\pi\tau\omega$, which could not arise by phonetic weakening of τ from $\tilde{\epsilon}\text{-}\pi\epsilon\tau\text{-}o\nu$ (Aeol. and Dor.), because τ becomes σ only before i . It must therefore, he says, = $\tilde{\epsilon}\pi\epsilon\tau\text{-}\sigma\text{-}v$, and is to the form $\tilde{\epsilon}\pi\epsilon\sigma a$:: $\dot{\epsilon}\beta\acute{y}\sigma\epsilon\tau o$: $\dot{\epsilon}\beta\acute{y}\sigma\sigma\tau o$. Or (to compare it with $\tilde{\epsilon}\chi\epsilon\sigma\sigma\nu$), $\tilde{\epsilon}\pi\epsilon\sigma\sigma\nu$: $\pi\epsilon\sigma\sigma\mu\mu i$:: $\dot{\epsilon}\chi\epsilon\sigma\sigma\nu$ ($\dot{\epsilon}\text{-}\chi\epsilon\delta\text{-}\sigma\sigma\nu$) : $\chi\epsilon\sigma\sigma\mu\mu i$.

The vowel of all vowel-stems is lengthened before σ in the weak aorist and future, $\epsilon\piοίηστα$, $\piοιήσω$ ($\piοιέ-\omega$), $\epsilon\lambda\bar{υ}στα$, $\lambda\bar{υ}σω$ ($\lambda\bar{υ}-\omega$). In derivative verbs in $-a\omega$, $-e\omega$, $-o\omega$ (which all = $aγάμi$ formed by suffix ya) the length of the vowel is natural as expressing a contraction; and from this large class of verbs it may have passed by analogy to others. A few exceptions are seen in such forms as $\epsilon\kappa\acute{α}λεστα$, $\kappa\acute{α}λεσω$; $\eta\rhoοστα$, $\acute{a}\rho\acute{o}σω$ (from $\acute{a}\rho\acute{o}\omega$), $\eta\nu\epsilonστα$ from $a\bar{\nu}\acute{e}\omega$.

The conjunctive forms follow the analogy of pres. conj., σ alone marking the tense, e.g. $\lambda\acute{\nu}\sigma\omega$, $\lambda\acute{\nu}\sigma\eta-s$, etc., $\lambda\acute{\nu}-\sigma\omega-\muai$. In optative forms the suffix ι makes with a a diphthong— $\lambda\acute{\nu}\sigma a-\iota-\mu$, etc. The ‘Aeolic optative’ in $-\sigma\epsilon a$ seems to be formed with the suffix ya ($\imath\eta$, $\iota\epsilon$, p. 185), but with the indicative weak aorist terminations; e.g. $\lambda\nu\sigma\epsilon ia$, $-as$, $-\epsilon$, etc., instead of $\lambda\nu\sigma\epsilon i\eta\nu$, which would be expected on analogy of $\tau i\theta\epsilon i\eta\nu$, etc. The a of weak aorist-stem in these forms has sunk to ϵ ; but a feeling that a was characteristic of this tense led to its retention in the suffix $-ia$, which usually becomes $\iota\epsilon$ or $\imath\eta$, though the letter there had really nothing to do with the *tense* formation.

¹ This very neat (and convincing) explanation is given (as Brugman's) by De Saussure, 'Mémoire sur le Système Primitif des Voyelles,' p. 21.

5. *The Future Tense (Greek).*

Origin of Future in
-σω (=εσιω).

The characteristic Greek future termination in -σω is not (as has by some scholars been supposed) connected with the weak aorist -σα, except in being perhaps originally a tense formation from the same root *as* (ες). From this root *as* (ες) language developed a present form by the addition of *ya* (see above, p. 208), viz. *as-yā-mi*=in Greek ἔσ-σιω (a hypothetical form), the middle of which, ἔσιμαι, becomes ἔσσομαι. The suffix *ya* (*i*) is perhaps identical with the root *i*, 'to go,' seen in *i-μεν*, *i-re*: and if this be so, *as-yā-mi* or *ἔσ-ιω*='I go to be,' a natural mode of expressing future time by the addition of an auxiliary verb analogous to *je vais faire* in French, '*I am going to do*' in colloquial English, and the Latin form *datum iri* for fut. infin. pass.

Traces of the full form -σιω.

The form -σιω, thus derived, has in most Greek dialects sunk (by omission of *i*) to -σω. Doric however preserves traces of the fuller form, sometimes with *i*, sometimes with ε, following σ. Thus on inscriptions are found βοαθησίω, σπενσίω, πραξίμες (πραγ-σιο-μες), βοαθησίοντι, χαριξιόμεθα, etc.; Theocritus has future forms like οἰστεῦμες=οἰστέομες (15. 133), αὐλησεῦντι (7. 71), ἀσεῦμπαι (3. 38); Aristophanes, employing the Doric dialect, gives forms such as δοξεῖτε, ἥσεῖτε (Ach. 741, 747), ἀγορασοῦντες (Ach. 750); and in Thuc. v. 79 (terms of a truce between Lacedaemonians and Argives—both Dorian) we find ἔσσείται=ἔσσεται=ἔσ-σιέται. We also, in non-Doric Greek, meet with middle forms known as 'Doric future'; e. g. ἔσσείται (Hom. Il. ii. 393, xiii. 317), κλανσούμεθα (Ar. Pax 1081), πλενσούμεθα and πλενσεῖσθαι (Thuc. i. 143, viii. 1), φευξούμεθα (Eur. Hel. 500, etc.). The existence of these forms indicates that in non-Doric dialects -σιω (-σεω) originally prevailed, but gave way to -σω.

With this ἔσιω='I go to be,' other verbs are compounded in order to acquire a future, just as e. g. the perfect stem in Latin is compounded with *ero* in *cecid-ero*, *amav-ero*; the initial ε of the root ες being lost in the process as perhaps in the weak aorist formation (above, p. 215) and in Latin *sum*; so that -σιω becomes the normal future termination. The future of stems in λ, ρ,

μ , ν , e. g. $\tau\epsilon\nu\hat{\omega}$, $\phi\alpha\nu\hat{\omega}$, $\mu\epsilon\nu\hat{\omega}$, $\nu\epsilon\nu\hat{\omega}$, $\beta\alpha\lambda\hat{\omega}$, etc. (which evidently arise from - $\epsilon\sigma\omega$, by loss of σ and contraction of - $\epsilon\omega$, so that $\mu\epsilon\nu\hat{\omega} = \mu\epsilon\nu\epsilon\omega = \mu\epsilon\nu\epsilon-\sigma\omega$) show an ϵ between the stem and σ which is sometimes supposed to belong to the root ϵs ; on which supposition there would be a distinct and older class of future forms, with the addition of the fuller form - $\epsilon\sigma\iota\omega$ to the verb-stem. The analogy however of certain Sanskrit forms, e. g. $\text{tan-i-shyā-mi} = \tau\epsilon\nu-\epsilon-\sigma\iota\omega$ (whence $\tau\epsilon\nu\epsilon-\sigma\omega$, $\tau\epsilon\nu\epsilon-\omega$, $\tau\epsilon\nu\epsilon-\hat{\omega}$), seems to justify the view taken in Curtius' Greek Grammar, § 262¹, that the ϵ is a phonetic insertion between the stem and the future suffix, in satisfaction of the laws of Greek euphony which (as we saw in the case of the weak aorist) did not tolerate an σ in close juxtaposition with λ , μ , ν , ρ . In the case of the weak aorist of such stems as e. g. $\phi\alpha\nu-$, σ disappeared from the contact— $\check{\epsilon}\text{-}\phi\eta\nu\text{-}\alpha = \check{\epsilon}\phi\alpha\nu\text{-}\sigma\alpha$: in the future it was retained in the first instance by the intervention of ϵ ($\phi\alpha\nu\text{-}\epsilon\text{-}\sigma\omega$), but then disappeared in accordance with another euphonic tendency to drop σ between two vowels (p. 66). And as in the case of the weak aorist a few exceptional (chiefly Epic) forms remain in which σ survives in contact with ρ and λ , so in the future we find exceptional (chiefly Epic) forms like $\kappa\acute{e}\rho\sigma\omega$, $\kappa\acute{u}\rho\sigma\omega$, $\theta\acute{e}\rho\sigma\omega\mu\alpha i$, and $\kappa\acute{e}\lambda\sigma\omega$, which show the shortened form in - $\sigma\omega = -\sigma\iota\omega$, and that at quite an early stage of the language. Other futures which show traces of this ϵ between the stem and the future-ending are $\acute{\epsilon}\delta\delta\hat{\omega}\mu\alpha i = \acute{\epsilon}\delta\acute{\epsilon}\text{-}\sigma\omega\mu\alpha i$, $\pi\epsilon\sigma\delta\hat{\omega}\mu\alpha i = \pi\epsilon\sigma\text{-}\acute{\epsilon}\sigma\omega\mu\alpha i$, $\mu\alpha\chi\delta\hat{\omega}\mu\alpha i$, Epic $\mu\alpha\chi\acute{\epsilon}\sigma\omega\mu\alpha i$, $\mu\alpha\chi\acute{\epsilon}\sigma\sigma\omega\mu\alpha i$.

σ has similarly been lost and the vowels contracted in $\beta\iota\beta\hat{\omega}$ (= $\beta\iota\beta\acute{u}\sigma\omega$, $\beta\iota\beta\acute{a}\omega$), $\acute{\epsilon}\lambda\hat{\omega}$, $\delta\alpha\mu\hat{\omega}$, the so-called 'Attic futures'²:

¹ Curtius now inclines ('Das Verbum,' II. p. 306) to the supposition of a double series of stem-forms, e. g. *man*, *manu*, whence $\mu\epsilon\nu-$ of aorist $\acute{\epsilon}\mu\epsilon\nu\iota\alpha = \acute{\epsilon}\text{-}\mu\epsilon\nu\text{-}\sigma\alpha$, $\mu\epsilon\nu\epsilon-$ of future $\mu\epsilon\nu\hat{\omega} = \mu\epsilon\nu\epsilon\text{-}(\sigma)\omega$. The *i* of Sanskrit *tani-shyā-mi* would thus be a weakening of a in the stem-form *tana-*, corresponding to $\tau\epsilon\nu\epsilon-$ of Greek $\tau\epsilon\nu\epsilon(\sigma)\omega = \tau\epsilon\nu\epsilon\sigma\iota\omega$. He allows that in the Greek examples the vowel has become a merely phonetic adjunct: and it is apparently for the sake of consistency with his present views about the 'thematic vowel' in ordinary conjugation (p. 166) that he is now unwilling to regard it as originally phonetic. Whether, however, it is necessary to strain after such consistency, in face of other undoubted examples of purely phonetic insertion of a vowel (p. 83), may be doubted.

² Other examples of 'Attic future' are $\delta\iota\kappa\hat{\alpha}\nu$ (Hdt. i. 97) = $\delta\iota\kappa\acute{a}\sigma\epsilon\iota\omega$, $\kappa\iota\lambda\hat{\alpha}$ (Ar. Eq. 456) = $\kappa\iota\lambda\acute{a}\sigma\epsilon\iota$, $\pi\epsilon\lambda\hat{\omega}$ (Aesch. P. V. 282, cp. $\pi\epsilon\lambda\sigma\omega$, Eur. El.

σ has been lost without contraction in the Homeric forms *ἀρύω* (Il. iv. 56), *ἐρύω* (xi. 454), *ταρύω* (Od. xxi. 174). These forms have become like present-forms by loss of σ , but there are others which really are present formations to which a future meaning has attached, notably *εἰ-μι, ibo*.

Future (Latin).

Two forms
of Latin
Future.

Here we find two distinct forms: 1. a modified form of pres. subj. (with consonant and *i-* or *u-* stems) which like *sim*, etc. (see p. 186) is probably an optative form. With *a-* and *e-* stems however this form, if used for the future, would lead to confusion with pres. subj. in the one case (*amemus*), with pres. indic. in the other (*monemus*); and with these verbs, accordingly, we find another form, *ama-bo, mone-bo*. A similar future in *-bo* (besides the more usual form in *-am, -es, -et*) is found from *i* stems in earlier writers (Plautus, Terence, etc.), e. g. *aperibo, adgredibor, scibo*, etc.; but none of these forms survived in use in the 1st century B.C. except *ibo, quibo, nequibo*. Propertius has *lenibo*; and we find *veniet* for the more usual *venibit* (future of *veneo=venum eo*) in the Lex Thoria, 112 B.C., and *exiet* in Seneca. [Pulchrior *exiet* in Hor. Od. iv. 4. 65, though accepted by Orelli, has very little MS. authority; and *evenit* is probably correct.] *Dicebo, fidebo* are also quoted from old Latin.

Future in
-bo.

This termination *-bo*, like *-bam* of the imperfect and *-ui, -ri* of perfect (see p. 196), is generally supposed to be a tense-form of the stem *fu-*, 'to be,' whence *fui, fore*, etc. Opinions however differ as to what precise tense-form it represents, two explanations being given:—

1. *-bo=fu-o*, a present formation: thus *ama-bo* would be analogous to 'I am to love.'

2. *-bo=bu-i-o, fu-i-o*; a form analogous to *εσίω, esio, ero*, and = 'I go to be' (see above, p. 218). This latter is more generally adopted, perhaps on account of the close analogy which it presumes between Greek and Latin in the formation

1332), *ἀποσκεδῶ* (Soph. O. T. 138), *γαμέτ* (Aesch. P. V. 764, etc.), *καθεδοῦμαι* (Ar. Ran. 200), and many futures in *-ιῶ*, *-ιοῦμαι* from *i* stems. The term 'Attic future,' applied by old grammarians, is really incorrect, many of the forms in question being found in Homer; while in some verbs (e. g. *δικάζω*) the Attic dialect invariably retains the σ .

of the future, Greek taking one form of auxiliary ($\epsilon\sigma-$), Latin Latin Future in $-bo$.

Was this future in $-bo$ the original form of all futures in Latin? Curtius ('Temp. und Modi,' p. 324) thinks not, because it is contrary to all analogy that language should proceed from a compound to a simpler form. The most primitive usage, he thinks, was to employ the optative form (*dicem, faciem*) as future: the form in $-bo$ being a later form, and as such applied mainly to the derivative verbs of 1st, 2nd, and 4th conjugations, and but little to consonantal stems. Forms therefore like *sugebo*, *dicebo*, *vivebo* (which are very few in number), are not reliques of an earlier formation for consonantal stems, but anomalous later forms on the analogy of *a-* and *e-* verbs.

The ordinary 'futurum exactum' or 'Completed Future' (*amav-ero, cecid-ero*, etc.) is, as has already been noticed (p. 218), a compound form; the future (or pres. with fut. signification) of stem *es-*, i.e. *ero=esio*, being added to the perfect-stem, the characteristic *i* of which vanishes; *amav-ero, scrips-ero, tetig-ero, ded-ero*, etc.

In the older language of Plautus, old laws, and formulaires, etc., is found a series of future forms with characteristic *s*; viz. indie. *-so* or *-sso* (*facso, amasso*, etc.); subj. *-sim* or *-ssim* (*faxim, ausim, locassim*); infin. *-sere* or *-ssere* (*reconciliassere*, Plaut.); pass. indic. *-s̄t̄ur* or *-ss̄t̄ur* (*mercassit̄ur*, Lex Thoria; *jussit̄ur*, Cato; *faxit̄ur*). A number of other examples are given in Roby's Latin Grammar, i. §§ 619, 620: but almost the only forms which survived after Terence are *faxo, faxis; ausim, ausis*. Terence has besides *excessis* (And. iv. 21) and *appellassis* (Phorm. v. 1. 15); Lucretius has *cohibessit* (iii. 444); Cicero, *di faxint*; Catullus, *recepso* (xliv. 19) and *tepefaxit* (lxviii. 29); Virgil, *jusso* (Aen. xi. 467). Two explanations of these forms are given:—

1. On the analogy of *amassem, amasse, consuessem*, etc., and other forms acknowledged as syncopated (*dixti, extruvem, consumpe*, etc., see Wordsworth's Introd. xviii. 12, p. 149), these forms are regarded as formed by the addition to the perfect-stem of *-so=-ro* of the ordinary 'futurum exactum,' the *č* pre-

Latin Futures in *-so*,
-sim, *-sere*.

ceding this *-ro* (*amavero*) being on this view regarded as the *i* of perfect-stem shortened to *ě*, as abl. *-ī* to *-ě* (p. 125). Thus *amasso* = *amavi-so* = *amave-so* = *amavero*. [Schleicher in fact classes the forms in *-so* under the head of ‘futurum exactum,’ of which he distinguishes (*a*) the shorter and older form *-so* added to pure verbal-stem; (*b*) the longer and later form in which *-so* is added to the perfect-stem, including the ordinary forms *amavero*, etc., and the syncopated forms *amasso*, etc.] To this view two objections are made: (1) that it does not account for forms like *cap-so*, *rap-so*, *faxo* (*fac-so*), *prohibesso*, etc., where the *present-* and not the perfect-stem seems to be employed; (2) that it does not properly account for the double *s*; the view that this *ss* is a compensation for the loss of *v* or *ui* being not only conjectural, but contrary to the analogy of other contracted forms. *Amaveso*, by loss of *v*, would more naturally become *amaeso*, *amāso*, *amāro*; or if it did become *amavso*, it would contract to *amauuso* or *amūso* (cp. *amūram* = *amaveram*, *nauta* = *navita*, *aetas* = *aevitas*, etc.). Accordingly others explain these forms as—

2. Formed from the *present-stem*, like the Greek future in *-σω*: *-so*, *-sim*, *-sere* being respectively a future indicative, subjunctive, and infinitive, formed by the addition of *s* to the stem; a final *i* or sometimes *e* of the stem being dropped, as in *fac-so* (*faxo*) from stem *fuci*; *sponso* (*spondso*) from stem *sponde*; *ausim* (*aud-sim*) from stem *aude*. Other *e-* stems preserve the vowel, *prohibe-ssit*, *cohibe-ssit*, etc. The double *s* in these forms and those from *a-* stems may possibly be due to a mistaken analogy from the forms *amasse*, *consuessem*, etc., for *amavisse*, *consuerissem*, etc.: or it may have been a mode of marking the accent, or of preserving by additional stress the characteristic *s*; a single *s* between two vowels, as we have seen (above, p. 66), being very rare and almost always changed to *r*. It may be, therefore, that in pronunciation of these forms the desire to retain what was characteristic of meaning, viz. *s*, struggled against the phonetic tendency to resolve *s* into *r*; and that the success of this effort affected orthography in the *ss* of the forms in question.

The objection urged to this explanation is the difficulty of Latin Future in -*ss*,
regarding *ss* as merely the result of accent in pronunciation ; etc.
a view which has already been set aside in the explanation of
the superlative termination *-issimus* (see above, p. 134) : but
upon the whole the difficulty appears less than those which
attend the other explanation.

[N.B. The verbs *arcesso*, *capesso*, *facesso*, *lacesto* are prob-
ably similar formations, originally future, from *arcio* (= *ad-cio*,
see p. 65), *apiro*, *facio*, *lacio* ; but they have been treated as
present-stems, and so received fresh inflections of tense and
mood. Similarly *incesso* (= *inced-so*, p. 75) is formed from
incedo : and *petesso* or *petisso* (Cicero, Tuseul. II. xxvi. 62 ;
Lucretius, iii. 648, v. 810) is probably a like form from
peto.]

6. Tenses formed from the Perfect-stem (Pluperfect, etc.).

(a) *Greek Pluperfect*. A preterite of aorist form from the Pluperfect;
root $\epsilon\sigma-$ ($\epsilon\sigma\text{-}\alpha\mu$, $\epsilon\sigma\alpha\text{-}s$, etc.) is added to the perfect-stem, the Greek and Latin.
augment being prefixed. Thus from $\pi\epsilon i\theta\omega$, perfect-stem $\pi\epsilon\pioi\theta-$,
we have pluperfect $\dot{\epsilon}\text{-}\pi\epsilon\pioi\theta\text{-}\epsilon\sigma\alpha(\mu)$, whence Epie $\dot{\epsilon}\pi\epsilon\pioi\theta\epsilon\alpha$, con-
tracted naturally into $\dot{\epsilon}\pi\epsilon\pioi\theta\eta$, which is found in old Attic ;
- ν being added as secondary form of 1 pers. inflection. In
3 sing. however α became ϵ , $\dot{\epsilon}\pi\epsilon\pioi\theta\text{-}\epsilon\sigma\epsilon(\tau)$, $\dot{\epsilon}\pi\epsilon\pioi\theta\epsilon\epsilon$; and the
natural contraction was to ϵi in $\dot{\epsilon}\pi\epsilon\pioi\theta\epsilon i$. This ϵi having become
usual in 3 sing. was transferred in late Greek by a false analogy
to 1 plur. and dual ($\dot{\epsilon}\pi\epsilon\pioi\theta\epsilon\sigma\mu\epsilon s$, $\dot{\epsilon}\pi\epsilon\pioi\theta\epsilon\alpha\mu\epsilon s$, $\dot{\epsilon}\pi\epsilon\pioi\theta\epsilon\eta\mu\epsilon s$), giving
e.g. $-\epsilon\mu\epsilon\nu$ as its termination ; and then to 1 sing., giving $-\epsilon\nu$
instead of $-\eta$: the extreme point of confusion being reached when
in 3 plur., where alone the full form was retained [$\dot{\epsilon}\pi\epsilon\pioi\theta\epsilon\sigma\alpha\tau(\tau)$]
and there was never any contraction, the ϵi representing a con-
traction was introduced, giving $-\epsilon\sigma\alpha\nu$ as the termination. But
this $-\epsilon\sigma\alpha\nu$ of 3 plur., though always given by grammars, is
rarely found in the best MSS. of Greek authors : and many
good MSS. of Plato and Thueydides give in 1 sing. $-\eta\nu$, not the
later and incorrect form $-\epsilon\nu$.

(b) *Latin Pluperfect*. Here *-eram*, *-as*, *-at*, etc. added to the
perfect stem is obviously a corresponding formation to Greek
 $\epsilon\sigma\alpha(\mu)$; Latin retaining fuller forms in 1 sing. and 3 plur.

Latin Plu-
perfect.

Compare e. g. $\tilde{\eta}\delta\epsilon a = \tilde{\eta}\delta\epsilon\sigma a$, the older form of $\tilde{\eta}\delta\epsilon\nu$, with Latin *videram*, the pluperfect form of *vidi*=*φοιδα*:—

<i>vīd-eram</i>	$\dot{\epsilon}\text{-}F\epsilon i\delta\text{-}\epsilon(\sigma)a$	$\tilde{\eta}\delta\epsilon a$
<i>vīd-eras</i>	$\dot{\epsilon}\text{-}F\epsilon i\delta\text{-}\epsilon(\sigma)as$	
<i>vīd-erat</i>	$\dot{\epsilon}\text{-}F\epsilon i\delta\text{-}\epsilon(\sigma)\epsilon$	$\tilde{\eta}\delta\epsilon\epsilon$
<i>vīd-eramus</i>	$\dot{\epsilon}\text{-}F\epsilon i\delta\text{-}\epsilon(\sigma)\ddot{a}m\epsilon s$	
<i>vīd-eratis</i>	$\dot{\epsilon}\text{-}F\epsilon i\delta\text{-}\epsilon(\sigma)\ddot{a}t\epsilon$	$\tilde{\eta}\delta\epsilon a t\epsilon$
<i>vīd-erant</i>	$\dot{\epsilon}\text{-}F\epsilon i\delta\text{-}\epsilon s\sigma a v$	$\tilde{\eta}\delta\epsilon s\sigma a v$.

Except that the Greek pluperfect has the augment, the two are identical throughout.

Futurum
Exactum.

(c) ‘*Futurum exactum*’ (Greek), by the addition of σ (see above, p. 218) to the lengthened perfect-stem in active voice $\tau\epsilon\theta\nu\gamma\xi\omega$ (-κσω), $\epsilon\sigma\tau\gamma\xi\omega$; to the perfect-stem in the middle forms $\lambda\epsilon\lambda\nu\text{-}\sigma\mu\alpha i$, $\pi\epsilon\pi\rho\acute{\alpha}\xi\text{-}\sigma\mu\alpha i = \pi\epsilon\pi\rho\acute{\alpha}\gamma\text{-}\sigma\mu\alpha i$, $\gamma\epsilon\gamma\acute{\alpha}\psi\text{-}\sigma\mu\alpha i$, etc.

(d) ‘*Futurum exactum*’ (Latin), by addition of *er-o*, etc. to perfect-stem (see above, p. 218).

7. Imperfect Tense (Latin).

Latin Im-
perfect in
-bam.

The imperfect in *-bam*, like the future in *-bo*, appears to be an exclusively Italian formation, found in all Latin verbs except *sum*, and supposed to be formed from the parallel root *fu-* as *eram* from *es*. *Fu-am*, then, is the original of *-bam*; the process of change being according to some the loss of *u* and change of *f* to *b*, *-fuam*, *-fam*, *-bam*; according to others, loss of *f* and hardening of the *u* (consonantal=*w*) to *b*, *-fuam*, *-uam*, *-bam*. This termination *-bam*, *-bas*, etc. is added directly to most pure vowel-stems, e. g. *dā-bam*, *sta-bam*, *qui-bam*, *i-bam*, and to derived vowel-stems in *-a*, *-e* (*ama-bam*, *mone-bam*): but with derived verbs in *ī* (4th conjug.) and consonantal stems a long vowel is inserted between the stem and the termination, e. g. *audi-ē-bam*, *reg-ē-bam*. In old Latin poetry this *ē* is often not found with *ī* stems, e. g. *ai-bam*, *sci-bam* (Plaut., Ter., Luer., Catull.); *servi-bas* (Plaut.); *insani-bas* (Ter.); *saevi-bat* (Luer. v. 1003), etc.; and so in later poetry—*audi-bant* (Catullus, lxxxiv. 8); *larsi-bar* (Prop. i. 3. 25); *leni-bant* Virg. Aen. iv. 528), *nutri-bant* (vii. 485), *redimi-bat* (x. 538), etc. These instances are chiefly poetical, and the probability is that *-ibam* is not an original form, but a contraction for *-iebam*: and

further, that for all derived verbs the form was originally Latin ^{Im-}_{perfect.} *-ē-bam*, but that with *a-* and *e-* stems it coaleseed with the stem-vowel (*mone-e-bam*, *monē-bam*). The origin of this *ē* is doubtful: some explain it as the lengthening of the ordinary connecting-vowel: others as being merely transferred from the derived verbs in *ē-*, by false analogy, to the 3rd and 4th conjugations; others (e. g. Bopp) as part of the suffix *-aya*, which enters into the formation of derived verbs in *ā-*, *ē-*, *ī-* (p. 211), and therefore confined in the first instance to these derived verbs. In support of this latter view it is urged that the parallel future form in *-bo* is general with some derived verbs (in *ā-* and *ē-*, 1st and 2nd conjugation), not unfrequent in others (*ī-* stems), and very rare in consonantal stems. If this view be correct, the *ē* with consonant verbs *reg-e-bam*, etc. will be the result of false analogy from the vowel or derived stems in *a-*, *e-*, *i-*. Another suggestion, that in the long *ē* we have the effect of a stem-vowel coalescing with the augment prefixed to the auxiliary (*ē-bam*), contradicts all analogy, not only of the Latin language, which exhibits no trace of having used the augment, but also of the Greek, where in compound tenses the augment always leaves the auxiliary and takes its place at the beginning of the whole compound, e. g. *ἔλνσα*, not *λύ-εσα*: so too in Sanskrit, *a-dik-sham*, not *dik-a-sam*.

The original quantity of *a* in the termination *-bām* is preserved throughout, except in 3 sing., which was shortened (as *amat*, *monet*, *regit*, etc., see p. 175) in daetylic verse, from Ennius downwards; the old quantity being seen in Enn. Ann. 141,—

‘Noenum rumores ponebat ante salutem.’

In Virg. G. iv. 137, Aen. v. 853 ('tondebāt,' 'amittebāt') a short syllable is artificially lengthened.

8. Aorist Passive (Greek).

The two passive aorist-stems in the Greek verb are distinguished from other passive forms by *active* person-endings: whence it seems probable that their passive meaning lies in the stems themselves, i. e. in the elements *ε* (*η*) and *θε* (*θη*) appended to the verb-stem. The precise connection, however, of these elements with the meaning in question is matter of conjecture.

Greek Aorist
Passive.

'Strong' or
2nd Aorist
Passive.

(1) For the 'strong' 2nd aorist-stem ϵ (η) is added to the root, and treated as a root-vowel, the augment being prefixed. Thus from root $\phi\alpha\nu-$ is formed the aorist stem $\dot{\epsilon}\text{-}\phi\alpha\nu\epsilon$; indic. $\dot{\epsilon}\text{-}\phi\acute{a}n\eta\text{-}\nu$; imper. $\phi\acute{a}n\eta\text{-}\theta\iota$; conj. $\phi\alpha\nu\acute{e}\text{-}\omega$, $\phi\alpha\nu\hat{\omega}$; opt. $\phi\alpha\nu\acute{e}\text{-}\acute{i}\eta\text{-}\nu$. η has usually been regarded as a raising (*Steigerung*) of ϵ ; but some regard η as the original form, and ϵ a shortening from it. The origin of ϵ (η) is uncertain: Curtius ('Temp. und Modi,' pp. 329-30) suggested that it arose from the root ya ='to go,' which in Sanskrit is employed in the formation of passive verbs (cp. *venum eo* or *veneo*=passive of *venum do* or *vendo*), and which e. g. in $\tilde{i}\eta\mu$ has a causative force='I make to go.' But this is only a conjecture: and it is equally probable that ϵ is an increase of the stem, such as is found e. g. in the derived verbs, whose stems are sometimes treated as if their final letter were the final letter of the root itself; compare Aeolic $\phi\delta\eta\text{-}\mu$. This, in fact, is Curtius' present view ('Das Verbum,' ii. p. 322).

'Weak' or
1st Aorist
Passive.

(2) The 'weak' or 1st aorist-stem is distinguished from the other by θ between the verb-stem and ϵ (η). We may say either that ϵ (η) is appended to the verb-stem increased by θ (instead of to the pure verbal-stem as in 2 aor.); or, more probably, that $\theta\epsilon$ ($\theta\eta$) is appended to the pure verbal-stem; analysing e.g. $\dot{\epsilon}\pi\rho\acute{a}\chi\theta\eta\text{-}\nu$ (stem $\pi\rho\alpha\gamma-$) into $\dot{\epsilon}\pi\rho\acute{a}\chi\text{-}\theta\eta\text{-}\nu$. The form probably stands in more or less close connection with numerous other formations in which the same consonant θ appears¹: e. g. the present-stems $\tau\epsilon\lambda\acute{e}\theta\omega$, $\phi\theta\iota\nu\acute{e}\theta\omega$, $\mu\iota\nu\acute{e}\theta\omega$, $\pi\rho\acute{e}\theta\omega$ (stem $\pi\rho\alpha-$ of $\pi\acute{e}\mu\rho\eta\mu$), $\pi\lambda\acute{e}\theta\omega$ ($\pi\lambda\alpha-$), $\tilde{\epsilon}\sigma\theta\omega$ (Epic)= $\ddot{\epsilon}\delta\text{-}\theta\omega$ (by dissimilation, see p. 79), from which with a further suffix $\iota\epsilon=ya$ is formed the present-stem $\tilde{\epsilon}\sigma\theta\iota\epsilon$ in $\dot{\epsilon}\sigma\theta\iota\omega$, or the preterites $\tilde{\epsilon}\sigma\chi\epsilon\text{-}\theta\text{-}\omega\text{-}\nu$, $\dot{\eta}\mu\acute{u}\nu\alpha\text{-}\theta\text{-}\omega\text{-}\nu\text{-}\omega\text{-}\tau\omega$, $\dot{\eta}\gamma\epsilon\rho\acute{e}\text{-}\theta\text{-}\omega\text{-}\tau\omega$, etc. This $\theta\eta$ is possibly identical with the root $\theta\epsilon$ (*dha*)='to place,' used in the sense of 'to do' or 'make,' with the same force originally, in composition with other verbal stems, as our English auxiliary verb *did* in such expressions as *he did come*. If this be so, the formation would be originally active: how it comes to have a passive meaning is an unsolved difficulty. Sanskrit has a compound verbal stem $\dot{\epsilon}\text{rad-}\theta\omega$, 'to believe,'

¹ A full list of these is given by Curtius, 'Das Verbum,' ii. pp. 340-345 (Engl. transl. pp. 501-504).

from which is formed a present *çrad-dadhāmi*, i. e. *çrad* or ^{Greek Aorist Passive.} *çrath*=‘trust,’ ‘belief,’ and *da-dhāmi*=*τι-θη-μι*. To this corresponds the Latin *crēdo*=*cred-do* (cp. *condo*, *per-do*, etc.) ; this and similar forms representing *dha* of *da-dhā-mi*, *τι-θη-μι*, as *da-* in *dare* represents *δο-* *da-* of *διδωμι*, *da-dāmi* : and English *do*, *did* is from the same root. Thus in *ε-θη-ν*, *ε-πράχ-θη-ν*, *cre-do*, and English *do*, *did* we have one and the same element.

(3) From these two aorist passive-stems are formed two ^{Greek Future Passive.} futures by the addition of the ordinary future termination (see p. 218) with middle person-endings, *φανή-σομαι*, *λυθή-σομαι*. They are apparently late formations; in Homerie Greek the weak aorist in *-θησομαι* does not occur at all, the strong aorist only in *μιγήσεσθαι* (Il. x. 365).

9. Tenses of the Conjunctive Mood in Latin.

^{Latin Con-}
^{junctione:}

(1) The Present Conjunctive has been explained above, pp. ^{Present.} 184-186.

(2) Imperfect Conjunctive. The *-rem* which in 1st, 2nd, and 4th Imperfect. conjugations is added directly to the present-stem, and in 3rd conjugation apparently with a connecting vowel *e* (*ama-rem*, *mone-rem*, *audi-rem*, *dic-e-rem*), probably=*-sem*, i. e. *-erem* or *-esem*; an optative form of *eram*, *esam* analogous to *amem*. Thus in 1 plur. *eremus*, *eramus*; *amemus*, *amamus*. This *-erem* (*-esem*) therefore originally=*esa-i-m* (see above, p. 186). For the double *s* in *essem*, the ordinary imp. subj. of *sum*, different explanations have been suggested. Pott, followed apparently by Roby (Latin Grammar, § 609), makes *essem*=*es-sem*, the first *s* belonging to the stem, the second to the suffix *-sem* (*-rem*). But in the plup. subj. *fecissem* evidently=*fec*i*+-sem*, and the two forms can hardly be treated differently: moreover we have traces in Old Latin of both forms with a single *s*, e. g. *eset*, *esetis*, *esent* on S. C. de Baech. (Appendix I. ii); *fuissem* is also said to occur. The form *essem* from *edere* is a case of assimilation=*ed-sem*; similarly *possem*=*pot-sem* (*pot-est*, *pot-is*), *ferrem*=*fer-sem*, *vellem*=*vel-sem* (see above, pp. 74-75).

(3) The Pluperfect Subjunctive is apparently formed in the Pluperfect. same way from the perfect-stem, by adding *-sem*, the *s* becoming *ss* in the ordinary conjugation of all verbs; *amari-ssem*, *rex-*

Latin Con-
junctive :
Pluperfect.

ssem. Schleicher (Comp. § 301) thinks that the forms *vixem* (Virg. Aen. xi. 118), *extinxem* (Aen. iv. 606), *confluxet* (Luer. i. 987), etc. are not, as is usually supposed, syncopated forms of *vixissem*, *extinxissem*, *confluxisset*, etc., but relies of an older formation by the addition of *-sem* to an older perfect-stem without *i* or *is*: the ordinary forms in *-issem* being an addition of *-sem* to the *-is*, which, as we have seen above (p. 199), there is reason to suppose was characteristic of the perfect-stem, surviving in the terminations *is-ti*, *is-tis*, *is-se*. The comparison however of these forms with those acknowledged to be syncopated, e.g. *dixti*, *intellexti*, *misti*, *accestis*, *consumpsse*, *traxe*, *promisse*, etc., rather points to the conclusion that the pluperfect forms in question are later contracted forms.

Perfect.

(4) The *Perfect Subjunctive* is formed by adding *-sim*=*-siem* to the perfect-stem in *i-*: thus *fece-siem*, which becomes *fecerim*; the formation thus bearing some analogy to that of the perfect subjunctive passive by the auxiliary *sim* (*amatus sim*), just as the ‘futurum exactum’ *amav-ero* bears to the fut. pass. *amatus ero*. The original length of the *i* in *sim*=*siem* appears in *fueris*, *dederis* (Hor. Od. iv. 7. 20), *dederitis*, etc.; though, as has been already noticed (p. 184), the confusion with *ī* of the ‘futurum exactum’ has led to frequent intermixing of the quantities in both tenses¹; *i* is properly characteristic of perf. subj., *ī* of completed future indie.

INFINITIVES AND PARTICIPLES.

Infinitive
not to be
classed as a
'Mood.'

The Infinitive is not a ‘Mood,’ its various forms being cases of verbal-nouns: and Philology and Grammar alike must begin by getting rid of the misnomer ‘Infinitive Mood,’ for the proper understanding of its real nature and historical development. The analysis by Grammar of the syntactical uses of the infinitive points to its being a verbal-noun, sharing the properties both of noun and verb²: (1) of a *noun*, in that it expresses the action of the verb in general, like nouns of action,

¹ For examples of this confusion, see Roby, ‘Latin Grammar,’ § 592.

² See Roby’s ‘Latin Grammar,’ vol. ii. §§ 1342, 3.

and in Greek becomes a verbal-noun by combination with the article; (2) of a *verb*, in admitting inflections of voice and tense, in governing the case of the verb to which it belongs, in being qualified by adverbs and not by adjectives, and (in Greek especially by combination with $\tilde{\alpha}\nu$) in sharing the functions of mood in *oratio obliqua*. And the analysis by Philology of the forms of the infinitive leads us still more surely to the same conclusion; so that there is no class of grammatical forms of which the first origin and subsequent development can more certainly be traced, and a meaning more clearly seen to underlie what meets us in Greek or Latin Grammar as an apparently unmeaning form.

I. The Greek Infinitive forms fall into five groups:

Greek Infinitive.

1. Forms in $-\mu\epsilon\nu a i$, $-\mu\epsilon\nu$; $\tilde{\epsilon}\delta\text{-}\mu\epsilon\nu a i$, $\dot{\alpha}\mu\nu\nu\acute{e}\text{-}\mu\epsilon\nu$.
2. Forms in $-\epsilon\nu a i$, $-\nu a i$; $\lambda\epsilon\lambda o i \pi\text{-}\epsilon\nu a i$, $\delta\varepsilon i k \nu\text{-}\nu a i$.
3. Forms in $-\epsilon\nu$, $-\eta\nu$, $-\epsilon\nu v$; $\phi\acute{e}r\epsilon\nu$ (Cret.), $\phi\acute{e}r\text{-}\eta\nu$ (Aeol.), $\phi\acute{e}r\text{-}\epsilon\nu v$.
4. Infinitive of the sigmatic aorist; $\delta\varepsilon\acute{e}\xi a i$, $\dot{\alpha}\mu\nu\nu a i$.
5. Forms in $-\sigma\theta a i$ throughout the Middle.

The form in $-\mu\epsilon\nu a i$ corresponds to Sanskrit *manē* (*manai*), the 1. Forms in dative of a suffix *man-*, by which a large number of nouns are $-\mu\epsilon\nu a i$, $-\mu\epsilon\nu$. formed in Sanskrit, Greek, and Latin¹; e.g. from Sanskrit *jnā*, ‘to know,’ is formed (*j*)*nāman*, Latin (*g*)*nomen*, that by which a thing is known, its *name*: while from the corresponding Greek stem $\gamma\nu\omega$ - is formed $\gamma\nu\omega\mu\omega\nu$ ($\gamma\nu\omega\text{-}\mu\omega\text{-}\omega\nu$)=‘a knower,’ the suffix $-\mu\omega\mu$, $-\mu\epsilon\nu$ (= *-man*) being used in Greek chiefly for forming masculine nouns, *τλήμων*, *ποιμῆν*, etc. In Latin *-mēn* is a common termination of abstract nouns in the neuter gender, e.g. *teg-men*, *sola-men*, *car-men*, *tuta-men*, etc.: and if we took the dative case of one of these forms to express the object of doing anything, and said *canes fecit tutamini domum*, we should have an exact equivalent to the Homeric expression *κύνας ἔτευξε φυλασσέμεναι δόμον*, ‘he made dogs for the protection of the house.’ Thus the notion of *purpose* or *object* is in reality the primary notion of the infinitive; and the expression in English of both dative case of nouns and infinitive

¹ See Max Müller’s ‘Chips from a German Workshop,’ vol. iv. p. 33 (‘Selected Essays,’ i. p. 141).

Greek Infinitive in
-μεναι, -μεν.

by the same preposition *to* ('I come *to say* this *to him*') reflects a philological truth.

[The above explanation of -μεναι is that preferred by Professor Max Müller, to whose lecture on 'The Value of Comparative Philology' ('Selected Essays' I. ii) I am indebted for the statement here given. There is, however, another explanation, viz. that -μεναι is the *locative* of a suffix -manai (*mana-i*, ep. p. 126), which, as will be shown below (p. 237), appears as a participial suffix in Greek (*φερό-μενο-s*) and in the isolated Latin form *ama-mini* (sc. *estis*, see p. 178); -μεναι would, on this view, be a locat. sing. fem. of a verbal-noun formed by this suffix, analogous to *χαμα-i* from stem *χαμα-*. The analogy of locat. sing. appears at first sight more suitable in the case of 1 aor. infin., e.g. *λισται* from stem *λιστα-* (pp. 214 sqq.): but it cannot show the same clear coincidence of form and meaning as the other view; and the analogy of -μεναι, when the consciousness of its being a dative was lost, would tend to produce similarity of termination in *λισται*, though the dative of stem *λιστα-* would properly be something different (*λίστα-αι*, *λίστῃ-*, see p. 128). The -ai, however, was not felt to be dative any more than locative, and would assert itself by analogy as the right termination.]

The infinitive in -μεν is probably an abbreviation of that in -μεναι; though it has been suggested that -μεν may be an archaic accusative corresponding to Latin accusatives like *teg-men*, etc., and expressing the general object of certain acts or movements.

2. Infinitive
in -εναι, -ναι.

Besides the form in -μεναι, we find a parallel form in -εναι: thus in Homer we find both *i-μεναι* and *i-έναι*, *ēμ-μεναι* and *ēναι* (= *ēσ-έναι*). Bopp and others have accounted for this form by supposing the loss of μ: but it is more probably a collateral formation from another suffix -van or -an, added to verbal bases in the Indo-European languages. 'By the side of *dāman*, the act of giving, we find in the Veda *dā-van*, the act of giving, and a dative *dā-váne*, with the accent on the suffix, meaning "for the giving," i.e. "to give." Now in Greek this ν would necessarily disappear, though its former presence

might be indicated by the *digamma aeolicum*. Thus, instead of Sanskrit *dāvāne*, we should have in Greek *δοφέναι*, *δοέναι*, and contracted *δοῦναι*. . . . In the same manner *εῖναι* stands for *ἐσ-φέναι*, *ἐσ-έναι*, *ἔέναι*, *είναι*. Hence *ἰέναι* stands for *ἰφέναι*, and the accent remains on the suffix *-van*, just as it did in Sanskrit¹.

The regular infinitives of the perfect active (*λελοιπ-έναι*) and of the verbs in *-μι* (*διδό-ναι*, *ιστά-ναι*, *τιθέ-ναι*), none of which are Homeric, should be referred, according to Professor Max Müller, to the parallel suffix *-an*, dative *-ane*, for which again he quotes parallel forms in the Sanskrit of the Veda. Schleicher, who regards these forms as locatives, refers them to a kindred suffix *-ana*, which appears in the formation of substantives in Greek (*δρέπ-ανο-ν*, *τύμπ-ανο-ν*, *ἀγχ-όνη*, *στέφ-ανο-ς*, etc.) and Latin (*pag-in-a*, *dom-in-o-s*, *sarc-in-a*, etc.).

The ordinary infinitive in *-ειν* is generally regarded as formed by transposition of *-ενι*: e. g. *φέρενι* becomes *φέρειν*, just as *φέρεσι* becomes *φέρεις* (above, p. 170). As to the form *φέρενι*, opinions differ: some regarding it as a phonetic corruption of *φέρεναι*, while others, who hold that *φέρεναι* is dative, suppose the existence of a locative in *-ι* side by side with the dative in *-αι*². The Doric form in *-εν*, e. g. *ἀείδεν=ἀείδειν*, is thought to arise from dropping the final *i*, instead of throwing it back into the previous syllable; compare the Doric form of 2 sing. *ἀμέλ-γεις* with the ordinary form *ἀμέλγεις=ἀμέλγεσι*. An Aeolic form *φέρην* is found: and Curtius, comparing this with *φέρεν* and *φέρειν*, postulates a common form *φέρεεν*, in which *φερε-* is the stem (with thematic vowel), *-εν* the termination. The raising (in the arsis of a metrical foot?) of the last syllable would give the Homeric infinitive in *-εειν* (*φυγέειν*, *ἰδέειν*, etc.). The present infin. in *-ειν* and strong aorist infin. in *-εῖν* might both arise from *-εειν*; the accent for the aorist being placed on the thematic vowel (*φυγέεν*, whence *φυγεῖν*), for the present or the stem-syllable (*φέρεεν*, whence *φέρειν*).

The infinitive in *-αι* of the sigmatic or weak aorist may

^{3. Infinitive in -ειν (-ενι).}

¹ Max Müller, 'Chips,' iv. p. 34 ('Selected Essays,' i. p. 142).

² Max Müller, 'Chips,' iv. p. 35 ('Selected Essays,' i. p. 143).

be formed on the analogy of the perfect to which its stem formation has affinity, particularly in the characteristic -ă (see above, p. 192).

5. Infinitive
in -σθαι.

The middle and passive infinitives in -σθαι, -θαι ($\delta\acute{\imath}\delta\sigma\text{-}\sigma\thetaai$, $\tau\acute{\imath}\pi\tau\epsilon\text{-}\sigma\thetaai$, $\tau\acute{\imath}\tau\acute{\imath}\phi\text{-}\thetaai$) are explained by Schleicher and others as dative feminine formations from a suffix *dhi*, i. e. *dhy-ai*, θyai. Sanskrit exhibits forms in -dhyāi, which evidently correspond to Greek forms in -σθαι: e. g. bhára-dhyāi=φέρε-σθαι, sacá-dhyāi=Ἴπε-σθαι, yája-dhyāi=Ἄζεσθαι. In Zend also occurs a form *verezidhyāi*=பேசேσθαι (*verez*=*Fεργ* or *Fεργ*), and *bū-zhdyāi*=பு-σθαι; the latter apparently showing the σ of -σθαι. The origin of this σ is doubtful. It may possibly owe its origin to analogy from other middle forms with σθ, viz. -σθε, -σθον, -σθην, -σθων, in which σ is perhaps original (see above, p. 173); or it may be a phonetic strengthening of -θai, as -μεσθα of -μεθα; or -σθai may arise by regular phonetic processes of assimilation and dissimilation from -θyai, representing I. E. *dhyai*. θyai would become by progressive assimilation -θθai or -τθai (see p. 174), and this by dissimilation -σθai. The existence of so many different explanations only shows how little can really be known with certainty of the origin of this form. In *τετύφ-θαι*=*τετύπ-σθαι*, σ has been omitted for phonetic reasons, and π assimilated to θ.

II. The forms of infinitive in Latin are:—

- (i) Active: -re in *amare*, *monere*, etc.
-se of perfect *amavisse*, and *esse*, *posse*.
-le in *velle*, *nolle*, *malle*.
- (ii) Passive: -ri or -i in *amari*, *moneri*, *regi*.
-ier (archaic) in *farier*, etc.

Latin Infinitive Act.
-se, -re.

(1) The three terminations of infin. act. are really the same, viz. -se=-sei, originally the dative case of a verbal substantive whose stem ended in -as, dat. -asai; the -as being the same termination as that of fem. substantives in -es (*seiles*, *labes*), or neuter in -us, -ur=Greek -os (*genus*, *robur*, *γένος*). Sanskrit has a corresponding dative formation, also used as infinitive, e. g. *jīv-ásē* (from *jīv*, 'to live'); and Latin *vehe-re*=Sanskrit *vah-asē*.

The older form *-se* is retained in the perfect *amavis-se* (on the Latin Infinitive Active. perfect-stem ending in *-is* see above, p. 199), in *es-se*, ‘to be,’ and *es-se=ed-se*, ‘to eat,’ and in *pos-se=pot-se*; *s* is assimilated to the final consonant of the verb-stem in *ferre=ferse*, and *velle*, *nolle*, *malle=vel-se*, *nol-se*, *mal-se*. When added to the present-stem *s* becomes *r* after the vowel of *ā-*, *ē-*, and *i-* stems, and the connecting-vowel by which it is attached to consonantal and *u-* stems (*reg-e-re*, *tribu-e-re*); the *-i* of *i-* stems becoming *č*, as in *capě-re*, present-stem *capí-*.

[It should be noted that some philologists consider *-čre=-čse* = *-asai*, and not *-rče*, to be the infinitive suffix¹. On this view the penultimate *č* of *reg-čre*, *cap-čre* is part of the original suffix, the *i* of stem *capí-* disappearing before it: while in *amāre*, *monēre*, *audīre*, the initial *č* of the suffix is absorbed into the long vowel of the stems *amā-*, *monē-*, *audī-*.]

The final vowel of the infinitive was originally *ē* (= *ei*, *ai*²), and traces of this are found in Plautus, e.g. *True.* ii. 4. 74 (iambic trimeter):—

‘Non aúdes aliquod m̄hi darē munūsculum?’

and *Pseudolus*, i. 3. 136, trochaic tetrameter catalectic:—

‘Égo scelestus nūnc argentum prōmerē possūm domo.’

It is still oftener found before the ‘caesura’ pause in tetrameters and tetrameters catalectic, e.g. *Asinaria*, ii. 4. 14 (iamb. tetram. catal.):—

‘Abscēde, ac sine me hunc pérderē, qui sémper me ira incéndit.’

So *darē*, *Ter. Heaut.* iv. 2 (724) and other examples quoted by Wordsworth (*Fragments*, p. 152) from Corssen.

The other Italian dialects have an infinitive form in *-om*, *-um*, *-o*, apparently an accusative case of a verbal substantive formed from the verbal-stem without any suffix, like *venum*, *pessum*, in *venum eo* (*veneo*), and *pessum do*; and the ordinary supine in *-um* to which attaches a dative or infinitive meaning, e.g. *spectatum veniunt*, ‘they come to see.’

¹ Roby, ‘Latin Grammar,’ i. § 611.

² See Corssen, ‘Ueber Aussprache,’ etc., ii. pp. 474, 5, 2nd ed.

Passive Inf.
fin. in -ier.

(2) Passive infinitive in *ri-er*, *i-er* (-*ri*, -*i*).

(a) One explanation of these forms makes *i-er*=*i-se*, i. e. a passive or reflexive formation from the infinitive active analogous to *amo-r* from *amo-* (see p. 178). Thus *amari-er*=*amare-se*: while for consonant-stems a shortened form of infin. act. is assumed, e. g. *dice-* or *dici-*, whence *dici-er*. It is, however, contrary to the phonetic analogy of Latin that *-se* should thus become *-er*: *amare-se*, *dici-se* would naturally become *amares*, *dices*, or *dicis*, as in 2 sing. *amaris*=*amasi-se* (p. 178). And if the final *r* of *-ier*=*re*=*se*, as in *amor*, then no account is given of the preceding *e*.

(b) To escape these difficulties Corssen devises a new theory, viz. that *-r*=*re*=*se*, and that the rest of the infinitive in *-ier* is a feminine substantive with a suffix *-sia* (after vowels), or *-ia* (after consonants): e. g. from stem *ama-*, *amasia-se*, *ama-sies*, *ama-rier*; from stem *dic-*, *dic-ia-se*, *dic-ies*, *dic-ier*.

These substantives would be analogous formations to *gloria*, *curia*, etc., and the vowel change from *a* to *e* analogous to that between *materia* and *materies*. The theory is perhaps more ingenious than convincing, the mode of composition which it postulates being difficult if not impossible to parallel; and though it avoids difficulties which beset other explanations, it must be ranked with them as a hypothesis upon which little evidence can be brought to bear in either direction.

Roby (Latin Grammar, §§ 614, 15) gives substantially the same explanation as (a) above. Without committing himself to the phonetic change of *-se* to *-er*, he holds that the ordinary passive suffix *-r* (I presume after it had taken that form, and its origin as=-*se* had possibly been forgotten) was ‘added to the active infinitive in the form of *ēr*,’ the final *ē* of infin. act. taking the form of *i* before *-er* on the principle of dissimilation (see p. 62). The final *r* was then dropped, because of its ill sound after another *r*, and *ie* contracted to *ī*. The stages of change on this view are *amare-er*, *amari-er*, *amarie*, *amari*. For the shorter forms in consonant and *i*-verbs (*dici-er*, *capi-er*), he accounts in the following way: if the process above described had been followed in these verbs, then, because the penultimate

vowel of infin. act. was short (*dicere*), the syllable *ēr* would have come twice over (*dicerīēr*); but the instinctive desire for economy of utterance dropped the first *er*, i. e. *-ier* was appended directly to the final consonant of the stem. In the absence of evidence for the date and exact process of the supposed changes this view is perhaps as likely to be right as any other.

The period of transition between the two forms (*-ier*, *-i*) can be approximately defined from 220–120 B.C. The ‘Lex Aelia Repetundarum,’ circ. 123 B.C., offers the latest example from inscriptions of the form in *-ier*, which form may therefore be presumed to have passed out of common use after that date. It also offers the first example from inscriptions of the other form in *-i* (*darei*, § 9): but the introduction of this form must have been considerably earlier, as it is more common even in Plautus and Terence than that in *-ier*. The dates mentioned will probably represent with tolerable accuracy the period of fluctuation, before which *-ier*, and after which *-i*, was the regular use. In the poets of the later Republic and the Augustan period, Lucretius, Virgil, Horace, etc., the form in *-ier* is an intentional archaism.

Perfect Participle Active (Greek):—

An Indo-European suffix *-vat*, *-vant* appears to have the meaning of ‘possession of’ or ‘supply with’ anything; e.g. Sanskrit *açva-vān* (stem *açva-vat*) = ‘supplied with’ or ‘possessed of horses.’ In Greek this suffix appears as *-Fεντ*, which (with loss of digamma) is found in the adjectival termination *-εις*, *-εσσα* = *-εντ-εις*, *-εντ-γα*: *ἰχθυό-εις*, *νιφό-εις*, *χαρί-εις*, etc. (stem *ἰχθυό-φεντ*, *νιφό-φεντ*, *χαρί-φεντ*). In Latin it becomes *-vans*, and (on analogy of *o-* stems) *-vōso*, *-vōso*, which (with loss of *v*) appears in the adjectival termination *-ōso*; *fructu-ōso*, *lumin-ōso*, *forma-ōso* (*form-ōso*, an older form *formonso* being actually found in MSS. of Virgil¹, etc.).

The same suffix was also used to form a perfect participle active, which (as the perfect itself) is expressed in many languages by an auxiliary denoting ‘possession,’ ‘I have done.’

Latin Infinitive Passive in *-ier*.

Perfect Participle Active Suffix *-vat*.

¹ E. g. Ecl. v. 86.

Greek
Perfect
Participle.

Sanskrit has a perf. part. in **-vān** (nom. masc.), **-vat** (neut.), to which corresponds the Greek perf. partic. active **-ώς=For-s**, neuter **-ός=For** (the stem appearing in oblique cases **-ότ-os**, **-ότ-t**, **-ότ-a**): while the feminine **-vīa=-νογα** apparently results from the combination of another suffix **-vas (-us)** with the feminine suffix **-ya**, and corresponds to Sanskrit **-ushi**. Thus Sanskrit **ba-bhu-vān=πεφυώς**, **ba-bhu-vát=πεφυός**: **vid-vān**, **vid-ushi**, **vid-vat=φείδώς**, **ιδνία**, **εἰδός** (root **Φείδησθαι**). The effect of the digamma is seen in such forms as **έστα-ότες** (Epic), which later Greek contracted into **έστωτες** on analogy of other contracted forms, but which was preserved from contraction while a consciousness of the original digamma in **έστα-Φότες** survived.

Present Participle Active.

Present
Participle
Active -ant,
-nt.

This (as well as the future and aorist participles) is formed in Greek and Latin, and in other Indo-European languages, by a shorter suffix **-ant** or **-nt** (with consonant and vowel-stems respectively). Thus in Greek, from verb-stem **εσ-**, **φερ-**, we have part. **έσ-οντ-**, **φέρ-οντ-**; from stem **ιστα-**, **ιστα-ντ-**; **ντ-s** in nom. sing. sinking to **v** or **s** with long vowel preceding. So from **εἰμί** (**έσ-μι**), **έσ-οντ-s**, **έοντ-s**, **έ-ών**, later **ών**: from **ιστημι** (**ιστα-**), **ιστα-ντ-s**, **ιστάσ**: in 1 aor. act. **λιστα-ντ-s**, **λιστάς**: and in 1 aor. pass. **λιθεντ-s**, **λιθείς**. The feminine forms are due to addition of **-ya**, e.g. **έσ-οντ-ya**, **έοντ-ya**, **έονσα**; **ιστάσα=ισταντ-ya**; and in 1 aor. **λιστασα=λιστάντ-ya**. In these forms the combination **ντ** sinks to **σ** (as in 3 plur., p. 176) with compensatory raising of the preceding vowel, and the **y** sound disappears, but remains in fem. substantives, —**γερονσία=γεροντ-ia**, etc.

In Latin the ordinary participle stem is **ent-** (older **ont-**, **unt-**, in **e-unt-is**, etc.). *Praesens*, *absens* preserve a participle of *sum*, which exactly corresponds to that of **εἰμί** given above, e.g. (*e*)**s-ent-s=έσ-οντ-s**; the termination **-nts** of nom. sing., which in Greek becomes **-ών** (or in 1 aor. **-ᾶς**), becoming **-ns** by the phonetic laws of Latin. The feminine forms corresponding to those of Greek are not used as participles, but are common as feminine substantives, *sapient-ia*, *abundant-ia*, etc.

Greek Middle and Passive Participle in -μενος:—

The participial suffix **-μενο-**, by which are regularly formed

the present and future, middle and passive, the aorist middle and perfect passive participles, seems to represent an original Indo-European *-mana*, one of the many developments of the element *-ma* in the formation of nominal stems (see above, p. 102). In Sanskrit this appears as *-māna*, forming middle and passive participles from the present, and strong aorist, and future stems; in Zend as *-mna*, also participial; in Latin as *-mino*, *-mno* forming substantives like *ter-minu-s*, *fe-mina*, *alu-mnu-s*, and with traces of a participial signification in the isolated verb-form of 2 plur. passive, *amamini*, etc. (see above, p. 178). Thus we have, from the stem *bhar*, Sanskrit *bharamāna*, Zend *bare-mna*, Greek *φερό-μενος*, Latin *feri-mini*.

Latin Past Participle Passive in -tus, and Supines:—

The suffix *-ta* (above, p. 102), one of the commonest noun-suffixes among Indo-European languages, seems to have become at one period a regular mode of expressing the idea of a perfect passive participle ('having been' . . .). This function it retains in the Italian languages, e. g. Latin *scripto-*, Umbrian *screih-to*, Oscan *scripto-*; but here also there are many traces of a less closely defined use of the suffix in the formation of verbal nouns both substantive and adjective¹, as in the Greek verbal adjective termination *το-s*, and nouns of action like *κρι-τής*, *ποιη-τής*, etc. Such traces are found in the many verbal substantives in *-tus*, declined sometimes as *o-* stems, more often as *u-* stems, *—gemi-tus*, *fremi-tus*, *par-tus*, etc.; and the 'supines' in *-um* and *-u*, which are obviously accusative and ablative cases respectively of such a verbal substantive, often not to be distinguished in form from the substantive itself actually in use. Compare, for example, the substantive *visus* as used by Virg. Aen. ii. 212, 'Diffugimus *visu* exsangues,' with the supines *visum*, *visu* of the verb *video*. The perfect part. passive, supines, and such verbal substantives, have therefore one common element of formation, viz. the suffix *ta-* (*to-*, *tu-*); and the stem formed by the addition of this suffix is sometimes spoken of as the 'Supine-stem,' understanding by that term the base or stem common to

¹ A list of Latin verbs, with their perfects, supines, etc., is given in Roby's 'Latin Grammar,' i. ch. xxx. pp. 239-264.

these various formations from verbal stems. And in treating here of the formation of the past participle passive in *-tus* it will be convenient in some cases to borrow examples from the head of ‘supines’ or ‘verbal substantives.’

Phonetic Changes of Vowel-stems on addition of *-to*.

Phonetic Changes on addition of Past Partic. Suffix *-tus* to Vowel-stems.

The addition of the element *-to* to the verbal-stem is marked in some cases by certain phonetic changes, which may be shortly noticed here. In the formation from *ē*- stems, the stem-vowel becomes shortened to *ī* in Latin, e. g. *monī-tus* (*monē-*), *tacī-tus* (*tacē-*). With *ā*- stems it generally remains as in *amā-tus*, but is sometimes shortened to *ī*, *domī-tus* (*domā-*), *attonī-tus* (*tonā-re*); this *ī* being absorbed by a preceding *v* in *adjū-tus*=*adju-vī-tus* (*jurā-*), and *lautus*=*lavi-tus* (*lavā-*), ep. *cautus*=*cavī-tus* (*cavē-*), and *fōtus*, *mōtus*, in which the *v* sound has also been absorbed into the preceding vowel. With *ī*- stems the *ī* remains, as in *audī-tus*, *molī-tus*; but is occasionally dropped out, as in *sanc-tus* (*sancī-tus* being also in use), *comper-tus* (but *peri-tus*).

From the cases above mentioned, in which *ī*, preceding the participial element *-to*, is a degradation of sound from *ā* or *ē*, must be distinguished those in which *ī* is either part of the stem, or a connecting-vowel. In *gem-ī-tus*, *vom-ī-tus*, *gen-ī-tus*, *frem-ī-tus*, and a few similar formations from consonant-stems, it may be only a connecting-vowel introduced for the sake of euphony (see above, p. 165). Without it the forms from stems *gem-*, *vom-*, *frem-* would, by the ordinary euphonic laws of Latin, either have lost their characteristic *m*, becoming *fren-tus*, *von-tus*, *gen-tus*, or have assumed the ugly forms *fremptus*, *vomptus*, *gemptus*, by the insertion of *p* sound which seems to follow naturally upon the transition from *m* to *t*, *s*, or *l* [cp. *sum-p-tus*, *sum-p-si*, *tem-p-lum* (*τέμ-ερος*¹)]. Roby (§ 698) suggests that the forms *alī-tus* (post-Augustan) and *molītus*, from *al-ere*, *mol-ere*, may be due to a desire to distinguish these participle forms from the adjectives *altus*, *moltus*; and that *strepī-tus*, *genī-tus* may have originally had stems in *a-* (*strepā-* and *genā-*, cp. *gna-scōr*, *gna-tus*). In *pos-ī-tus* (*pōno*=*pos-no*, *pos-uī*) the connecting-vowel is employed, but not universally, in

¹ Thus *hiemps*, *tempo* (not *hiems*, *tento*) are the correct forms.

the compound forms; e.g. *repos-tus*, *compos-tus* and *composi-tus*, *sepos-tus* and *seposi-tus*. Past Participle Suffix -*tus*.

Verbs in *-io*, whose present-stem is formed by addition of *i=ya* to the verbal-stem (above, p. 210), generally affix the supine or past participle element direct to the verbal-stem, e.g. *cap̄-o*, *cap-tus*. Where *i* appears, it may be regarded either as the *i* of present-stem, or more probably as a connecting-vowel; e.g. *fug-̄-tum* (*fug-i-o*, *fug-i*, *fug-a*), where the insertion of a connecting-vowel preserves the characteristic *g*, which otherwise would have become *c* before *t*, as in *fractus* (see p. 49). So we have *elici-tum*, but *illec-tum*; and in certain words the connecting-vowel, not used before the past-participle and supine, is inserted before the fut. participle for euphony (*or-tus* *or-̄-turus*; *mor-̄-turus*; *par-̄-turus*, *par-tus*).

Verbs in *-uo* (*u*-stems) generally have *ū* preceding *t* of participle or supine, e.g. *acū-tus*, *exū-tus*, *imbū-tus*, etc. The stem-vowel of such verbs being generally *ū*, the *ū* is perhaps due to coalescence of a connecting-vowel with the stem-vowel, e.g. *imbū-̄-tus*, *imbū-tus*. A few verbs retain *ū*, e.g. *rū-tum* (according to Varro *rūtum*), the future participle being *rū-̄-turus*, ep. *ob-rūtus*: and *clū-tus* from *clu-eo* (*κλύω*), whence *in-clu-tus*.

With consonant-stems the suffix *-t-* appended to the verb-
stem is sometimes softened to *s*, usually by the influence of a preceding dental (all dental-stems having *-sus*, *-sum* in past participle and supine¹). The dental either drops out, the preceding vowel being lengthened in compensation (e.g. *divī-sum* = *divīd-tum*, *man-sum* = *mand-tum*, or it is assimilated (*mes-sum* = *met-sum*, *quas-sum* = *quat-sum*)). *Lap-sus* from *lab-or* illustrates the same process after a labial: and *fixus* (= *fic-sus* for *fig-tus*) after a guttural. The guttural, however, often drops out, e.g. *par-sum* = *parc-tum*, *spar-sus* = *sparg-tus*. [*Fig-tus* would naturally become *fic-tus* (see p. 49), and this would lead to confusion with *fic-tus*, part of *singo*. And in this and most other cases of change to *s*, otherwise than after a dental (as above) or after a liquid and some other consonant (*ard-*, *arsum*, etc.), it is noticeable that the perfect active, if any,

¹ For examples, see Roby, § 707, 8.

is formed with *-si*: so that the *s* of participle and supine may be the result of analogy from that of the perf. act.]

Future Participle in -turus (Latin):—

Connection
of Future
Participle
Suffix with
Noun-suf-
fixes *-tar*,
etc.

The termination of the stem of fut. partic. active in *-turo* appears to represent an Indo-European *-tara*, a variety of *-tar*, which is largely used in the formation of nouns of agency (*-tar*) or implement (*-tra*). In Sanskrit and Zend the suffix appears as *-tar*, *-tra*. In Greek it appears as *-τερ* in *πα-τήρ*, *πα-τέρ-ος*; *σωτήρ=σωτερ-ς*, etc.; or *-τορ* in *ρήτωρ*, *ρή-τορ-ος*; *ἱστωρ*, *ἱστορ-ος*, etc.; and a feminine *-τρια=tar-ya* is found in *ποιήτρια*, etc.; while in other cases the *i* of the feminine suffix *ya* is thrown back into the previous syllable, e. g. *σώτειρα=σώτερ-γα*, *δότειρα=δότερ-γα*. Another specially Greek form is a feminine stem in *-τριδ=tarid*, formed by suffixing *-ιδ*, e. g. *πατρίς*, *πα-τριδ-ος*. *-tra* appears as *-τρο* or *-θρο* (neut.), and *-τρα*, *-θρα* (fem.), e. g. *νίπ-τρο-ν*, *ἄρο-τρο-ν*, *ρή-θρα*, *μάκ-τρα* (root *μακ-* of *μάσσω=μάκ-γω*), *κοιμή-θρα*, etc. Latin has forms almost identical: *pa-ter*, *ma-ter*, etc.; nouns of agency, as *ric-tor*, *censor=cens-tor*, *sponsor=spond-tor*, etc.; of implement, as *ara-tru-m*, *claus-tru-m=claud-tro-m*, *ros-tru-m=rod-tro-m*. The suffix is also further increased by *-ya* to *-trio*, *-torio-* (*pa-trio-s*, *victoria*); by *-ic* to *-tric-*, a feminine suffix, as in *victric-s*; by *-ino*, as in *doc-t(o)rina*. To the longer form *-tara* corresponds *-turo-* of fut. partic. act., and feminine nouns of action, e. g. *sepul-tura*, *usura=ut-tura*.

APPENDIX I.

Specimens of Latin Inscriptions from 250 B.C. to the close of the Republic.

THE following selection of Latin Inscriptions is given as a fuller and more connected illustration of those gradual changes in the form of Latin words, to which incidental allusions have been necessary in the preceding pages. For the text of the inscriptions cited I am immediately indebted to selections made from the *Corpus Inscriptionum Latinarum* (ed. Mommsen) and Ritschl's *Priscae Latinitatis Monumenta Epigraphica* by Messrs. Wordsworth (in 'Fragments and Specimens of Early Latin') and Roby ('Latin Grammar,' vol. i. Appendix B); of the general accuracy of whose citations I have satisfied myself by comparison with the authorities whom they have followed. The inscriptions are all in 'uncial' (i.e. capital) letters. The vertical strokes denote the ending of lines on the original inscription: but in the version (in italics) of the Scipionic Epitaphs they mark the 'caesura' of the Saturnian metre.

I. Epitaphs of the Scipios:—

i. On L. Cornelius Scipio Barbatus, consul 298 b.c. (Inscription not later than 240 b.c.)

cornelius . lucius . scipio . barbatus . gnaiuod . patre | prognatus . fortis . vir . sapiensque—queius . forma . uirtut ei . parsuma | fuit—consol . censor . aidilis . quei . fuit . apud . uos—taurasia . cisauna | samnio . cepit—subigit . omne . loucanam . opidesque . abdoucit. |

*Cornelius Lucius | Scipio Barbatus,
Gnaeo patre prognatus | fortis vir sapiensque,*

*Cujus forma virtu | ti parissuma fuit,
 Consul, censor, aedilis | qui fuit apud vos
 Taurasiam Cisaunam | Samnium cepit
 Subigit omnem Lucaniam, obsidesque abducit.*

2. On L. Cornelius Scipio, consul 259 b.c. (Inscription perhaps earlier than No. 1.)

honcoino . ploirume . consentiont . r
 duonoro . optumo . fuise . uiro
 luciom . scipione . filios . barbati
 consol . censor . aidilis . hie . fuet . a
 hee . eepit . corsica . aleriaque . urbe
 dedet . tempestatebus . aide . mereto

*Hunc unum plurimi con | sentiunt romai (i.e. romae)
 bonorum optimum fu | isse virum virorum,
 Lucium Scipionem. | Filius Barbati
 consul, censor, aedilis | hic fuit apud vos.
 Hic cepit Corsicam Aleri | amque urbem pugnando;
 dedit tempestatibus | aedem merito votam.*

3. On P. Cornelius Scipio, perhaps son of Sc. Africanus Major, augur 180 b.c. (Inscription about 160 b.c.)

quei . apieeinsigne . dial aminis . gesistei |
 mors . perfe tua . ut . essent . omnia |
 breuia . hon os . fama . uirtusque |
 gloria . atque . ingenium . quibus . sei |
 in . longa . lieui set . tibe utier . uita |
 fa . cile . factei superasses . gloriam |
 maiorum qua . re . lubens . te . ingremiu |
 scipio . recip t terra . publi |
 prognatum . publio . corneli

*Qui apicem insignem dialis | flaminis gessisti,
 mors perfecit tua ut | essent omnia brevia;
 honos fama virtusque | gloria atque ingenium,
 quibus si in longa lieuis | set tibi utier (i.e. uti) vita
 facile factis superasses | gloriam majorum.
 Quare lubens te in gremium, | Scipio, recipit
 Terra, Publi, prognatum | Publio Cornelio (i.e. Cornelio).*

4. On L. Cornelius Scipio (uncertain who is meant). The inscription dates about 150 b.c.)

l. cornelius . en . f. en . n. scipio . magna . sapientia |
 multasque . uirtutes . aetate . quom . parua |
 posidet . hoe . saxsum . quoiei . uita . defecit . non |
 honos . honore . is . hic . situs . quei . nunquam |
 uictus . est . uirtutei . annos . gnatus . xx . is |
 d ei . s datus . ne . quairantis . honore |
 queiminus . sit . mand u

Lucius Cornelius, Cnaei filius, Cnaei nepos, Scipio magnam sapientiam mul tasque virtutes aetate cum parva possidet hoc saxum.

quoiei (i.e. cui) vita defecit non honos, honorem.

Is hic situs. Qui nunquam victus est virtute

annos natus viginti is Diti est mandatus:

ne queratis honorem queiminus sit mandatus.

II. From the Senatusconsultum de Bacchanalibus, (or Epistola Consulum ad Teuranos,) 186 b.c.; ep. Livy xxxix. 8-18.

censuere | homines . plous . u . oinuorsei . uirei . atque . mulieres . sacra . ne . quis quam | fecise . uelet . neue . inter . ibei . uirei . plous . duobus . mulieribus . ploustribus | arfuise . uelent . nisci . de . pr . urbani . senatuosque . sententiad . utei . suprad | scriptumest . haice . utei . in . couentinoid . exdeicatis . ne . minus . trinum | noun dinum . senatuosque . sententiam . utei . scientes . esetis . eorum . | sententia . ita . fuit . sei . ques . esent . quei . aruorsum . ead . fecisent quam . suprad | scriptum . est . eeis . remeputalem . faciendam . censuere atque . utei | hoce . in . tabolam . ahenam . inceideritis . ita . senatus . aiquom . cen suit | uteique . eam . figier . ioubcatis . ubei . facilumed . gnosciertpotisit . atque | utei . ea . bacanalia . sei . qua . sunt . exstrad . quam . sei . quid . ibei . sacri . est | ita . utei . suprad . scriptum . est . in . diebus . x . quibus . uobeis . tabelai . datai erunt . faciatis . utei dismota . sient in . agro . teurano .

Censuere homines plus quinque universi, viri atque mulieres, sacra ne quisquam fecisse vellet, neve interibi viri plus duobus,

mulieribus plus tribus, adfuisse vellent, nisi de praetoris urbani senatusque sententia, uti supru scriptum est.

Haec uti in contione exdicatis ne minus trinum nundinum; senatusque sententiam uti scientes essetis. Eorum sententia ita fuit: si qui essent qui aduersum ea fecissent, quam supra scriptum est, eis rem capitalem faciendam censuere.

Atque uti hoc in tabulam ahnam incideretis: ita senatus aequum censuit;

Utile eam fugi jubeatis, ubi facillume nosci possit;

Atque uti ea Bacchanalia, siqua sunt, extra quam si quid ibi sacri est, ita uti scriptum est, in diebus decem, quibus vobis tabellue datae erunt, faciatis uti dimota sint. In agro Teurano.

III. Inscription of the same age as S. C. de Bacch., but less antique in spelling, (the former being of a more formal legal nature.) The earliest example of doubled letters.

laimilius . l . f . inpeirator . decreiuit | utei . quei . hasten sium
 . seruei | in . turri . lascutana . habitarent | leiberei . es
 sent . agrum . oppidumqu | quod . ea . tempestate . posedisent
 | item . possidere . habereque | iousit . dum . poplus . senatus
 que | romanus . uellet . act incastreis | ad . xii . k . febr

IV. From an inscription at Polla in Lucania, recording works executed by P. Popillius Laenas, consul 132 B.C.

uiam . feci . ab . regio . ad . capuam . et | in . ea . uia . ponteis
 . omneis . miliarios | tabelarios que . poseuei . hince . sunt |
 nouecriam . meilia . 41 . capuam . xxciim . | muranum . 4xxviii .
 . cosentiam . cxxiii | ualentiam . c4xxx . ad . fretum . ad sta-
 tuam . ccxxxI | et . eidem . praetor . in | sicilia . fugiteinos .
 italicorum | conquaesuei . redideique | homines . DCCCCXVII .
 eidemque | primus . fecei . ut . de . agro . poplico | aratoribus
 . cederent . paastores | forum . aedisque . poplicas . heic . feci.

[Note in this inscription the fluctuation between *ē*, *ei*, *ī* (*homines*, *ponteis*, *fecī*, *fecei*) and one example of doubled vowel (*paastores*).]

V. Two inscriptions found at Capua and Aeclanum, and assigned by Ritschl (*Pr. Lat. Monumenta*, LXIII A, LXIII C)

to the years 108 and (about) 90 B.C.; but exhibiting in some forms (e.g. *venerus*, *loidos*, *moiros*) the spelling of a considerably earlier period.

1. heissee . magistreis . venerus . iouiae . muru | aedificandum . eoirauerunt . ped cc \downarrow xx et | loidos . feeerunt . ser . sulpicio . m . aurelio . cof.

Hi magistri Veneris Joviae murum aedificandum curaverunt pedes CCLXX et ludos fecerunt, Servio Sulpicio Marco Aurelio consulibus.

[*cof.* is a stone-cutter's mistake for *cos.*]

2. e . quinctius . e . f . ualg . patron . munic | m . magi . min . f . surus . a . patlaci^s . q . f | iii uir . d . s . sportas . turreis . moiros | turreisque . a . equas . qum . moiro | faciendum . coirauerunt.

C. Quinctius, Caii filius, Valgus patronus municipii, M. Magius, Minucii filius, Surus, A. Patlaci^s, Quinti filius, quartuor viri de senatus sententia portas, turres, muros, turresque aquas cum muro faciendum (error for faciundas) curaverunt.

VI. From Sulla's Law 'de xx quaestoribus,' B.C. 80; ep. Tae. Ann. xi. 22.

q . urb . quei . aerarium . prouineiam . optinebit . eam | mercedem . deferto . quaestorque . quei . aerarium . prouin ciam | obtinebit . eam . pequiniam . ei . scribae . scribeisque . herediue | eius . soluito . idque . ei . sine . fraude . sua . facere . li . eeto . quod | sine . malo . pequalatuu . fiat . olleis que . hominibus . eam | pequiniam . capere . liceto.

VII. From Lex Julia Municipalis, B.C. 45.

quae . uiae . in . urbem . rom . propiusne . . r . p . q . ubei . con tinente . habitabitur . sunt . erunt . quoius . ante . aedificium . earum . quae | uiae . erunt . is . eam . uiam . arbitratu . eius . aed . quoi . ea . pars . urbis . h . l . ob . uenerit . tueatur . isque . aed . curato . uti . quorum | ante . aedificium . erit . quamque . uiam . h . l . quemque . tueri . oportebit . ei . omnes . eamuiam

. arbitratu . eius . tueantur . neue eo | loco . ao . consistat . quomini
nus . commode . populus . ea . uia . utatur.

[*p . q .* is a mistake for *p . m.=passus mille.*]

VIII. A monumental inscription upon a young actress, dated by Mommsen (C. I. R. 1009) and Ritschl (*Pr. Lat. Mon.* LXXXI.) at the end of the Republic, and exhibiting in the main the orthography familiar to us in classical Latin: most of the peculiarities being due to the carelessness of the mason who cut the inscription (e. g. *propiravit*, line 7; *denecavit* for *denegavit*, l. 9; *depositerunt* for *deposituerunt*, and *infistae* for *infestae*, l. 14). The ‘apex’ (see above, p. 48) is found on two words only, *lēti* (l. 1) and *hóra* (l. 7).

Eucharis . liciniaæ . i
docta . erodita . omnes . artes . uirgo . uixit . an . xiiii

heus . oculo . errante . quei . aspicis . lēti . domus
morare . gressum . et . titulum . nostrum . perlege
amor . parenteis . quem . dedit . natae . suae
ubei . se . reliquiae . conlocarent . corporis
heic . uiridis . aetas . cum . floreret . artibus
crescente . etaenio . gloriam . concenderet
propirauit . hóra . tristis . fatalis . mea
et . denecauit . ultra . uitae . spiritum
docta . erodita . paene . musaram . manu
quae . modo . nobilium . ludos . decorauichoro
et . graeca . inscaena . prima . populo . apparui
en . hoc . in . tumulo . cineremnostri . corporis
infistae . parcae . depositerunt . carmine
studium . patronae . cura . amor . laudes . deus
silent . ambusto . corpore . et . leto . tacent
reliqui . fletum . nata . genitori . meo
et . antecessi . genita . post . leti . diem
bis . hic . septeni . mecum . natales . dies
tenebris . tenentur . ditis aeterna domu
rogo . ut . discedens . terram . mihi . dicas *leuem.*

APPENDIX II.

A.—Adverbial Terminations in Latin.

THE following list of the various terminations of Adverbs, Prepositions, or Conjunctions in Latin will supply more or less obvious illustrations of the statement on p. 93, that they are all in their origin case-forms of Nouns. A few examples only of each are given; and for a more complete list the student is referred to Roby's Latin Grammar, i. §§ 508–547, from which this arrangement is borrowed.

I. Vowel-endings:—

-ā : *eā, hāc, circā, juxtā, suprā, contrā* [ablative sing. feminine from *a-* or *o-* stems] : *anteā, proptereā, postillā*, etc., seem to be accus. plur. neut. (see p. 155).

-ā : *itā, quā* [apparently accus. plur. neuter].

-ae : *prae* [probably locative *-ai*, or dat. with locative force].

-ō : a common adverbial termination, originally ablative singular of *-o* stems=older *-ōd*; cf. Greek *οὗτω*, *οὗτως*.

(1) From substantives: *ergo* (*ἐργῳ*), *extemplo* (= *extempulo*, diminutive of *ex tempore*), *illico* (*in loco*), *modo*, etc.

(2) From adjectives and participles: *cito*, *denuo* (*de novo*), *omnino*, *subito*, *vero*; *improviso*, *necopinato*, etc.

(3) Numeral adverbs; *primo*, *secundo*, etc.; so *immo* (= *imo*, 'at the lowest or least'), *postremo*, etc. [ablatives with local signification,—in such a place.]

(4) Pronominal, chiefly of direction to a place (perhaps originally adverbs of manner or circumstance): *eo*, *quo-ad* ('whither to'), *illoc* (Plautus, later *illuc*), *intro*, *porro* (*πόρρω*).

Adverbial
terminations
in Latin.

Under this head come the adverbs of direction ending in *-orsus*, *-orsum*, i.e. *-o-vorsus*, *-o-vorsum*, 'turned towards'; a combination analogous to *quo-ad*, *ad eo*.

(5) Adverbs formed by suffix *-do*: *quando* (*quam-do*), *endo*, or *indu*, an old form of *in*, seen in the forms *endoperator*, *induperator* (Ennius), and *indigeo* (*indu*, *egeo*).

-u: *diu*, *noctu*, *du-dum* (= *diu-dum*?). Ablatives.

-ē: the common adverbial termination from positive and superlative adjectives with *-o* stems [apparently ablative sing.; see above, p. 124]; e.g. *valde*, *vere*, *ferre*, *ferme*. *Apprime* (praeciceronian) is probably = *ad prima*, an adverbial expression analogous to *imprimis*; the *ē* being due to the analogy of other adverbs.

-č: generally speaking a shortened form of the preceding (-ē) termination, like abl. sing. in -ē of 3rd decl. (p. 125).

(1) From *-o* stems (as -ē above): *běne* (*bono-*), *malě*, *superne*, etc.; and possibly *mactě* in the phrase *macte virtute esto* (though this is more probably a vocative case).

(2) From other stems: *abundě*, *facilě*, *impuně*, *magě*, *spontě* (abl. of *spons*).

-pe: a form of *que*, e.g. *nem-pe* (= *nam-pe*, cp. *namque*).

-re: perhaps = *rel*, thus *nere* = 'or not.'

-ce: *eccc* = *en-ce*, *sic*, etc.; and appended to locative adverbs, *hīc*, *illīc*, etc. (see p. 153).

-que: a case-form of *qui*, appended to pronouns and pronominal adverbs (perhaps, as Roby suggests, a kind of reduplication): *quis-que*, *quando-que*, etc.; so with prepositions and conjunctions, *absque*, *atque* (*ac-que*), *namque*, etc.

-pte: *suopte*, etc.; possibly = *pote*, as in *ut-pote*.

-dě: *in-de*, *undě*, etc. Perhaps = *dē* (preposition) shortened by loss of accent.

-ně: *sině*, *pone* (= *pos-ně*). Probably the same as the interrogative particle *ně*, which again may = *nē*, 'verily' (wrongly written *nae* from analogy of Greek *vai*, *νή*).

-i (occasionally shortened to *ī*):—

(1) Ablative cases of manner: *quiī*, *quiīn* (*qui-ne*), *si* (abl. of a pronoun = 'in which case'), *sīc* (= *si-ce*, 'in this way'), *utī*

(probably = *quo-ti*, ‘in which way,’ *ti* being = *si* above, *brevi*, *Adverbial terminations in Latin.*
proclivi, etc.)

(2) Locative (or Dative) cases; *illi*, *isti* (Plaut., Ter.), more usually *illīc*, *istīc*; *herī*, *temperī*, etc.: and in the termination *-bi* of pronominal adverbs, *ibi*, *ubi*, etc.

II. Consonant-endings (Labial and Dental):—

-b: *ab*, *ob*, *ub* = Greek *ἀπό*, *ὑπό*, Sanskrit *apa*. *upa*, from pronominal stem *-pa* (p. 98, note). The form *ὑπάλ* suggests a locative case.

-am: probably accusative cases, e.g. *quam*, *obriam*, etc., and thence by analogy to such forms as *coram* (*cum*, *os*), *perperam* (*per-per-am*), ‘thoroughly;’ in termination *fariam* of *bifariam*, etc.; and in suffix *-dam* appended to pronouns and pronominal adverbs—*quidam*, *quondam*, etc. (see p. 156).

-om (*-um*). Accusative cases: *donicum* (Plaut.), later *donec*, *dum*, *quom* (*cum*); *actutum*, *circum* (stem *circō-*), *clanculum* (*c'um*, with diminutive suffix), *extremum*, *parum*, etc.; *rursum*, *adversum*, etc.

-em: accusative cases: *propediem*; *-tem* in *autem*, etc. (from pronominal stem *ta-*, see p. 156); *-dem* in *quidem*, etc. (cp. *-dam* above).

-im: (1) in pronominal adverbs, with the meaning of ‘at’ or ‘from’ a place; and so apparently a locative termination (see above, p. 127), e.g. *illim*, *hinc* (*him-ce*), *enim* (= *in-im*, *im* being locat. of *is*).

(2) In termination *-tim* (*-sim*) of adverbs from or similar to past participles: *raptim*, *conunctim*, *mixtim*, *strictim*, etc.; *sta-tim* (*sta-re* = ‘as you stand’), *confestim* (perhaps from *conferire*), etc.; *partim*, *ubertim*, *vicissim*, etc. These may also be locative cases, with the meaning of ‘circumstance under which;’ but such a form as *partim* is suggestive of the accusative case, which (as we have seen, p. 115) is thus formed with certain nouns of the consonant or *i*-declension. From verbs or nouns with *a*-, *u*-, or *i*- stems we have adverbs in *-a-tim*, *-u-tim*, *-i-tim*: e.g. *certatim*, *nominatim*, *minutim*; *gregatim*, *turmatim*, *generatim*, *tributim*, *viritim*, etc.

-d in *ad sed*, *haud*, *apud* is perhaps the old ablative suffix

Adverbial terminations (p. 124); and *quod* in *quodsi*, *quod utinam*, etc., is by some called an ablative. But *quod*=‘because’ is most naturally accus. of respect (cp. Greek *ὅτι* and the use of *ὅτε*=‘whereas’); and the same explanation must hold in the other phrases with which it is compounded.

-*t* in *ast*, *et*, *at*, may be only a phonetic variety of -*d* (*haut* and *set* are given as varieties of *hund*, *sel*); *ut* seems to be short for *uti*. It is true that Greek *ὡς*=*ὡτι*, the ablative of *ὡς* (see p. 124), rather points to the *t* as final; but then *uti* would be a different word: and as this is improbable, it seems better to give up the attempt to show that *ὡς* and *ut* are identical.

-*n*: *an*=Greek *ἄν*, which by some is connected with *ἀνά*; *en*, *in* (*endo*); *quin*=*quine*.

-*l*: *procul*, *simul* (older *semol*=*simile*), accusative neuter: *vel*, perhaps imperative of *volo*.

-*er*: the suffix of the comparative degree in *sup-er* (comparative of *sub*=‘up’) and its compounds.

-*per*: same word as *per* (preposition), connected with *παρά*, *πέρι-άν*, *pierce*, etc., always of time; *nuper* (*novum per*), *semper*, etc.

-*ter*: a common adverbial suffix from nouns of *o-* and *i-* stems, by some identified with -*tus*, and regarded as an extension of the ablative suffix -*d* or -*t*, by others connected with the comparative suffix seen in Greek -*τέρος*, Latin *de-ter-iōr*, etc. (see p. 133).

-*tus*: appears to=Sanskrit -*tas* of adverbs, and perhaps Greek -*θεν*, as -*mus* of 1st pers. plur.=Greek -*μεν* (see p. 169): but -*θεν* more probably=another suffix -*dhas*.

-*as*: *alias*, *foras*, etc., accusative plural.

-*us*: *secus*, *tenuis*, etc.; perhaps neuter accusatives.

-*is*: (1)=*ios* (*ius*), neut. aee. of the comparative suffix (p. 133): *magis*=*magios*, *nimiris*=*nimios*. Perhaps this is the origin of *is* in *paullisper*, *tant-is-per*, etc. (2) Ablative plur. in *foris*, *gratis* (*gratiis*), etc.

-*iens* or -*īes* the suffix for numeral adverbs, connected perhaps with the comparative suffix -*yans* (Sanskrit *īyan(s)*, *īyas*; Greek -*ιων*, -*ιον*; Lat. -*iōs*, -*ius*: see pp. 132, 133).

B.—Adverbial Terminations in Greek (Homeric).

[From Homer, Iliad I, edited by D. B. Monro. Clarendon Press, 1878.]

The chief suffixes used to form adverbs in Homer are as follows :—

-θι, expresses the *place where* : as *τό-θι*, *δ-θι*, *πό-θι* (=Attic *ποῦ*), *κεῖ-θι* (=Attic *ἐκεῖ*), *αὐτό-θι* (=Attic *αὐτοῦ*), *ἔκτο-θι*, *ἔνδο-θι*, *ἀπόπρο-θι*, *ἔγγύ-θι*, *ὑψό-θι*, *νειώ-θι*, *ἔτέρω-θι*, *οἴκο-θι*, *ἡῶ-θι*, *οὐρανό-θι*, *κηρό-θι*, *Ἰλιό-θι*, *Κορυθό-θι*.

-θεν, *place whence*, used with nearly the same stems as **-θι**; as *δ-θεν*, *πό-θεν*, *κεῖ-θεν*, *ἔτέρω-θεν*, *ἡῶ-θεν*, etc. It is often used after *ἐξ* and *ἀπό*, as *ἐκ Διό-θεν*, *ἀπ' οὐρανό-θεν*. There is also a suffix *-θε(ν)*; *πρόσ-θε(ν)*, *in front*, *ὅπισθε*, *ὅπι-θεν*, *behind*, *ὑπερθε(ν)*, *ἐνερθε(ν)*, *πάροι-θε(ν)*.

-σε, *place whither*, as *πό-σε*, *κεῖ-σε*, *ἔτέρω-σε*, *δύμό-σε*, *πάντο-σε*.

-τος, *placee*, *ἐν-τος*, *ἔκ-τος*.

-χι, in *ἡ-χι* *where* (lit. *which way*, like Lat. *quā*).

-χα, **-χθα**, with numerals; *δι-χα*, *two ways*, *τρί-χα*, *πέντα-χα*, and *τρι-χθά*, *τετρα-χθά*.

-δε, *place whither*, suffixed to the acc., as *οἰκόν-δε*, *πόλεμόνδε*, *ἄλαδε*, etc.

-δις, *direction or manner*; *χάμα-δις*, *to the ground*, *ἄμυ-δις*, *together*, *ἄλλυ-δις*.

-δον, **-δην**, **-δᾶ**, *manner*; *ἀποστα-δόν*, *aloof*, *ἰλα-δόν*, *in crowds*, *βοτρυ-δόν*, *in clusters*, *πυργη-δόν*, *in column*; *βά-δην*, *κρύβ-δην*, *κλή-δην*, *ἐπιγράβ-δην*, *ὑποβλή-δην*, *ἐπιστροφά-δην*; *μίγ-δα*, *κρύβ-δα*, *ἄμφα-δά*, *αὐτοσχε-δά*.

-ᾰ, *manner*; *ἄρ-α* (lit. *fittingly*), *ἄμ-α*, *μάλ-α*, *θάμ-α*, *thickly*, *τάχ-α*, *σάφ-α*, *κάρτ-α*, *ρεῖ-α*, *ὦκ-α*, *ἥκ-α*, *οἶψ-α*, *λίγ-α*, *σίγ-α*, *ρίμφ-α*, *πύκ-α*, *κρύφ-α*.

-η, *way, direction*; *πάντη*, *every way*.

-ει, **-ι**, *time, manner*; *αὐτο-νυχ-εί*, *that very night*, *τρι-στοιχ-ί*, *in three rows*, *ἀναιμωτ-ί*, *bloodlessly*, *ἀμογητ-ί*, *without effort*.

-ου, *placee*, *ποῦ*, *όμ-οῦ*, *ἀγχ-οῦ*, *τηλ-οῦ*, *ὑψοῦ*, *αὐτ-οῦ*, in meaning like the adverbs in **-όθι**, which are more common in Homer.

-ως, *manner*; a suffix of which there are comparatively few examples in Homer : $\hat{\omega}\varsigma$, $\tau\hat{\omega}\varsigma$, $\pi\hat{\omega}\varsigma$, $\delta\mu\hat{\omega}\varsigma$, $\phi\hat{\iota}\lambda\hat{\omega}\varsigma$, $a\hat{\iota}\nu\hat{\omega}\varsigma$, $\kappa\kappa\hat{\omega}\varsigma$, and a few others from stems in **-ο**. From other stems, $\acute{\alpha}\phi\rho\alpha\delta\acute{e}-\omega\varsigma$, $\pi\epsilon\rho\iota\phi\rho\alpha\delta\acute{e}-\omega\varsigma$, $\pi\rho\phi\rho\iota\omega\acute{e}\omega\varsigma$.

-ω, chiefly from prepositions ; $\epsilon\hat{\iota}\sigma-\omega$, *towards*, $\epsilon\hat{\xi}-\omega$, *outwards*, $\pi\rho\sigma\sigma\omega$, *forwards*, $\delta\pi\iota\sigma\sigma\omega$, *backwards*, $\pi\rho\sigma\tau\acute{e}\rho-\omega$, *farther on*, $\acute{\epsilon}\kappa\alpha\sigma\tau\acute{e}\rho-\omega$, $\acute{\epsilon}\kappa\alpha\sigma\tau\acute{a}\tau-\omega$, *farther*, *farthest*, $\acute{\alpha}\sigma\sigma\tau\acute{e}\rho-\omega$, *nearer*; $\hat{\omega}-\delta\epsilon$, $\omega\tilde{\iota}\tau-\omega$ are exceptional.

Many adjectives are used adverbially in the accusative neuter.

Variations in the endings of adverbs to be noted :—

1. Moveable final **-s** ; $\acute{\alpha}\mu\phi\acute{i}s$ and $\acute{\alpha}\mu\phi\acute{l}$, $\mu\acute{e}\chi\rho\acute{i}s$ and $\mu\acute{e}\chi\rho\acute{l}$, $\mu\epsilon\sigma\sigma\eta\gamma\acute{u}s$ and $\mu\epsilon\sigma\sigma\eta\gamma\acute{u}$, $\iota\theta\acute{u}s$ and $\iota\theta\acute{u}$, $\pi\o\lambda\lambda\acute{k}is$ and $\pi\o\lambda\lambda\acute{k}i$, etc.

2. Prepositions : $\pi\alpha\acute{r}ai$, $\kappa\alpha\acute{t}ai$, $\acute{\nu}\pi\alpha\acute{r}ai$ (perhaps locatives, like $\chi\acute{a}\muai$) ; $\pi\rho\sigma\acute{t}i$ and $\pi\sigma\acute{t}i$ (fuller forms of $\pi\rho\acute{o}s$) ; $\acute{\epsilon}n\acute{t}i$ ($\acute{\epsilon}\nu$). Cp. *ai\acute{e}i* and *ai\acute{e}\nu*.

3. Apocope occurs in $\acute{\alpha}\nu\acute{a}$ ($\acute{\alpha}\nu\ \delta\acute{e}$, $\acute{\alpha}\mu\ \pi\epsilon\delta\acute{io}\nu$, etc.), $\kappa\alpha\acute{t}\acute{a}$ ($\kappa\acute{\alpha}\delta\ \delta\acute{e}$, $\kappa\grave{\alpha}\pi\ \pi\epsilon\delta\acute{io}\nu$, $\kappa\acute{\beta}\beta\alpha\acute{e}$, etc.), and $\pi\alpha\acute{r}\acute{a}$; also in the particle $\acute{\alpha}\rho\acute{a}$.

C.—Table of Cases used Adverbially in Latin.

Cases used.	Examples of Adverbs formed.
1. Aceanative—	
Sing. -m	quom (cum), circum, quam, obviam, prope-diem.
„ -d, -s	quod, magis (-ios), secus.
Plur. -ās	alias, foras, etc.
„ -ā	quia, ita.
	Also neut. sing. and plur. of all adjectives.
2. Ablative—	
Sing. -ō (-ō), -ā, -ū	ergo, subito, primo, illoc, modō, citō, eā, juxta, interea, diu, noctu.
„ -ē (-ē), -ī (-ī)	facillimē, benē, quī, brevi, utī.
„ -d, -t, -tus, -ter	facillimēd, haud, apud, ast, et (?), caeli-tus, firmi-ter.
Plur. -is	gratis.
3. Locative—	
-ai, -ae, -i	prae, illi-c, isti-c, heri.
-bi	ubi, ibi.
-im	illim, istim, illin-c.

D.—Table of Greek Case-forms used Adverbially.

(Those which only exist as adverbs are called specially ‘Adverbial Cases,’ or, *πτώσεις ἴδαι* as distinguished from *πτώσεις κοντάι*.)

Cases employed.	Adverbs formed.		
	Substantival.	Adjectival.	Pronominal.
1. Accusative	<i>δίκην, χάριν, etc.</i>	Compar. neut. sing. Superlat. neut. plur. <i>μακράν</i> (sc. <i>όδόν</i>)	
2. Genitive (Local)			<i>οὗ, ὅπου, etc.</i>
3. Ablative—			
(1) Modal -as		-as (= -ωτ, Lat. -āl)	<i>ὅς, ὅπως</i>
	-ω	-ω (Lat. -ō) in <i>κάτω,</i> <i>κατωτέρω, etc.</i>	<i>ῳ-δε</i>

Cases employed.	Adverbs formed.		
	Substantival.	Adjectival.	Pronominal.
(2) Local -θεν	οἴκο-θεν οὐρανό-θεν (<i>caeli-tus</i>)		οὐθεν, etc.
4. Locative—			
(1) -οι, -αι	οἴκοι, χαμαί		οῖ, ποῖ, etc.
(2) -θι	οἴκο-θι	ν-έο-θι	ούθι, πόθι.
5. Dative (Modal) -η̂			ἡ̂, ἡ̂περ, etc.
6. Instrumental—			
(1) -η̂	κομιδῆ̂	κοινῆ̂, πεξῆ̂, etc.	
(or? Dative)	σχολῆ̂, σιωπῆ̂	πάντη (Dor. παντᾶ)	
(2) -α	σιγα	τάχα, ᾧμα, etc.	ἴνα
(or? Acc. plur.)			

N.B.—The adverbial forms in -η̂, -α, classed here as instrumental cases, may possibly be Dative Sing. and Accus. Plur. respectively. But the absence of 'ι subscriptum' in one case, and the occurrence of parallel forms in -ā in the other, seem to point (cp. p. 131) to the -ā of Indo-European instrumental case as a common origin. The pronominal adverbs ḥ̂, ḥ̂περ, etc. appear to be dative cases with locative meaning arising from an ellipse of οὐδῶ̂, as in the Latin expressions *rectā* (*via*), *quā*, *si quā* (*ratiōne*).

The adverbial suffixes -θα (local), -κα, -τε (temporal), and -σε (local, of direction towards) can hardly be assigned in their present form to any case-termination, but may be assumed to have had a similar origin to others which have been so assigned.

E.—Adverbs in Sanskrit.

Simple adverbs:—

1. From cases of nouns and obsolete words.

- (1) From nom. or acc. neuter of any adjective, and of certain pronouns and obsolete words.
- (2) From instrum. case (rarely dative) of nouns, pronouns, and obsolete words.

- (3) From ablat. case of nouns, pronouns, and obsolete words.
- (4) From locat. case of nouns and obsolete words.
2. Adverbial affixes:—e.g. -tas (cp. -θεν, Lat. -tus) with sense of ‘with,’ ‘from’; -tra forming adverbs of *place*; -dá (Lat. -de) forming adverbs of *time*.
3. Adverbial prefixes:—e.g. a-, ‘privative’ (cp. Gk. *a-*, Lat. *in-*, Engl. *in-*, *un-*); dus-, dur- (Gk. δυσ-) implying ‘badly,’ ‘with difficulty;’ su-, ‘well,’ ‘easily’ (Gk. εὖ).

F.—Comparative Table of Prepositions in Sanskrit, Greek, and Latin.

Sanskrit.	Greek.	Latin.
ā, ‘to,’ ‘near to’	ἀμφί, Ep. adv. ἀμφίς	ad (amb- in compounds) Germ. um-
apa (dá, adverbial affix)	ἀνά (adv. ἀνω) ἀντί ¹ ἀπό ² διά ³ εἰς (= ἐν-s, p. 157), ἐs ἐν, Ep. ἐνί ⁴ ἐκ, ἐξ (ἐκ-s)	(an- in an-helare, p. 157) ante ab, ab-s, ob de in in ex, d inter, intra
api	ἐπί	
antar	κατά (adv. κάτω)	
parā, ‘back,’ ‘backwards’	μετά	Germ. mit
pari	παρά	
pra	περί (Ep. adv. περί)	per (per- in per-magnus)
prati	πρό	pro, prae (pra-i)
sam	πρός, Ep. προτί	
upa	σύν, ξύν (κοσύν, p. 46) ὑπέρ ὑπό, Ep. ὑπαί	cum super, supra sub

Sanskrit.	Greek.	Latin.
abhi, 'to,' 'towards'	'Spurious Prepositions.'	Other Prepositions of adverbial form, many of them as adverbs.
adhi, 'above'	<i>ἄνευ</i>	
anu, 'after'	<i>ἄχρι, μέχρι</i>	apud
ati, 'across'	<i>μεταξύ</i>	circum, circa, circiter
ava, 'down,' 'off'	<i>ἔνεκα</i>	cis, citra
ud (ut), 'up,' 'upwards'	<i>πλὴν</i>	clam, coram
ni, 'in,' 'on,' 'down'		contra, erga, extra, infra
nis, nir, 'out'		juxta, penes
vi, 'apart'		pone (posne), post
N.B.—But few of these are used as prepositions with case of nouns; they are more com- monly prefixes to verbs or verbal derivatives.		praeter, prope, propter secundum trans, tra- ultra (ep. ultro) versus, versum

GENERAL INDEX.

A

- Ablative, inflections of, in Latin, 124.
Accent, effect of, upon decay of vowel sounds in Latin, 60.
Accusative, inflections of, in Greek, Latin, and Sanskrit, 115 sqq.
Adverbial terminations, Latin, 247 sqq.; Greek, 251.
Adverbs originally case forms, 93.
— in Sanskrit, 254.
Agglutinative stage of language, 4.
Alliteration, illustrative of the tendency to reduplication, 52.
Alphabet, relationship of Greek to Phoenician, 40.
— Phoenician, Greek, and Roman, comparative table of, 42.
— Greek, changes and modifications in, 43; Roman, 46.
Analogy, influence of, upon the forms of language: seen in distinctions of gender, 106; -ēs nom. plur. of consonant-stems, 114; declension of *sus*, *grus*, and gen. sing. -is of consonant-stems, and -i of u- stems, 120; dative dual in Greek, 130; gen. sing. *isti*, 153; -σθα of 2 sing., according to Bopp, 171; *amaminor*, 178; conjunctive of verbs in -μι, 184.
Analytic languages, difference of, from synthetic, 159.
Aorist, 'simple' or 'strong,' 200; reduplicated, 201.
— traces of, in Latin, 201.
— 'weak' or compound, relation of, to strong Aorist, 214.
— passive in Greek, 225.

- Aryan, use and meaning of the term, 10.
Aspirate sounds, and modifications of (spirants), 34.
— changes of, in Latin, 69.
Aspiration of unaspirated letters, 77.
Assimilation of vowels, 61.
— of consonants, 73-79.
Augment, in Greek and Sanskrit, theories of its origin, 162 sqq.
Auxiliary verbs, traces of, in Latin, 26.
— (prosthetic) vowels and consonants, 83.

C

- Cases, original number of, 105.
— used adverbially, 253.
Chinese language, the, 4, 7, 8.
Chordae vocales, their part in the formation of sound, 30.
Classification of languages, morphological, 4; genealogical, 8 sqq.
— of nouns, 108.
— of pronouns, 142.
— of verbs, 167.
Claudius, the Emperor, his attempt to introduce new letters, 47.
Comparative philology, questions treated by, 1.
Comparison of adjectives, 132; comparative and superlative suffixes, *ib.*
'Conjugations' of Greek verbs, 168; of Sanskrit, 202.
Conjunctive, suffix of, 183-51.
Consonants, meaning of the term, 30.
— classification of, 31-35.
— changes of, 63; general ten-

- dencies, *ib.*; substitution, 64; loss, 70; assimilation, 73; dissimilation, 79.
Consonants, insertion of auxiliary, 80, 84.

D

- Dative case, inflections of the, 127–131.
Declensions of nouns, 108; division of, into vowel- and consonant-declension, *ib.*
Definite article, development of, in Romance languages, 26.
Dental sounds, 33.
· Dentalism, 51.
Derivative suffixes used in formation of noun-stems, 102.
Derivative verbs, formation of, by suffix *ya* (*ja*), 103.
· Digamma Aeolicum, the, 43, 67.
Diminutives in *-ellus*, *-ollus*, *-illus*, *-ullus*, 59.
Diphthongs, formation of, 36.
— weakening of, to simple sounds in Latin, 56.
Double consonants, when first written in Latin, 47.
Dynamic change, 51 sqq.

E

- Etymology, general principles to be observed in, 49.
‘Explosive’ or ‘momentary’ sounds, 32.

F

- Final sounds, loss of, etc., in Greek and Latin, 72, 73.
· Fricative’ or ‘protracted’ sounds, 32.
Future Active (Greek) in *-σω*, 218; in *-ῶ* (Attic), 219; Latin in *-bo*, 220; in *-so*, *-sim*, *-serc*, 221.
Future Passive (Greek), 227.
· *Futurum exactum* in Greek and Latin, 224.

G

- Gender, expression of, in Indo-European languages, 106.
Genitive Case, inflections of, 118–123.
Grimm’s Law, formulae of, 89, 90.

- Grimm’s Law, original process of changes expressed by, 87.
— illustrations of, 86, 91.
Guttural sounds, 33.

I

- Imperfect Tense, forms of, in Greek, 213; Latin (*-bam*), 224.
— Subjunctive (*-rem*), 227.
Inchoative verbs, 211.
Indistinct articulation, changes due to, 79–84.
Indo-European family of languages, meaning of the term, 9; subdivisions of, 11, 12; comparative antiquity of, 12, 13; table of, 13; divergence of, 16.
Infinitive, not a mood but a verbal noun, 228.
— forms of, in Greek, 229–232; in Latin, 232–235.
Inflectional (or terminational) stage of language, 5.
Inflections of nouns, meaning of the term illustrated, 98.
— of verbs, variety of, 159.
— effects of phonetic change upon, 22 sqq.
Inscriptions, specimens of Latin, 250–45 B.C., 241 sqq.
Instrumental Case, inflections of, 131.
Intensification of vowel-sound, 53.
Iranian subdivision of Indo-European family of language, 11.
Isolating stage; see ‘Radical.’

K

- Keltic group of languages, 12, 15.
Kelts, their migrations, 14.
Koppa, the letter, in Phoenician, Greek, and Roman alphabets, 40, 45, 46.

L

- Labial sounds, 33.
Labialism, 51.
‘Lautverschiebung’ of Grimm’s Law, 87.
Liquid sounds, 34.
Locative Case, inflections of, 126.
Long vowel sound, attempts to express in Roman character, 47.

M

- 'Mediae,' meaning of term and various names for, 32.
 Medial sounds, loss of, in Greek and Latin, 71.
 Middle Voice, a prior development to Passive, 177.
 Middle or Passive (Medio-Passive) inflections, 178–183.
 Moods, number of possible, and meaning of term, 161.
 Mood-signs, position and function, 161.
 — forms of (Conjunctive and Optative), 183 sqq.
 Mutes, meaning of term, and other names for, 30.

N

- Nasal sounds, formation of, explained and illustrated, 33.
 — influence of, upon preceding sounds, 77.
 — insertion or addition of (Nasalisation), 55; employed in formation of present-stem, 207.
 National peculiarities of utterance, 84.
 Nominative Case, inflection of, 110.
 Numeral signs, Phoenician and Greek, 42; Roman, 46.

O

- Optative, suffix of, in Greek, 185; forms of, traceable in Latin, 186; 'Aeolic' in *-σεια*, 217.

Orthography, fluctuations of, in Latin, 82.

P

- Palatal sounds, 33.
 Paradigms of noun-inflection, 135–141.
 — of pronominal inflection, 147–149.

Participles, Perfect Active (Greek), 235; Present and Aorist, 236; Middle and Passive in *-μέρος*, *ib.*; Passive in *-τυς*, 237; Fut. Active in *-τύρος*, 240.

Passive Voice, developed from Middle, 177.

Perfect Active (Greek), strong and weak forms of, 193; aspirated form, 194; Homeric, 188.

Perfect Active (Greek), Middle and Passive, 194.

Perfect-stem, formation of, in Greek, 188 sqq.; in Latin, 195 sqq.

Person-endings of Greek and Latin verb, 161, 169 sqq.

Phonetic change, influence of, upon grammatical structure, 22 sqq.

— general principles of, 29.
 — limited sense of, as involuntary change, 51, 56.

Plautine prosody, illustrative of decay of vowel-sound, 60.

Pluperfect Indicative (Greek and Latin), 223; Subjunctive (Latin), 227.

Prepositions, table of in Sanskrit, Greek, and Latin, 255.

Present-stem, its relation to the pure verbal-stem, 202.
 — different formations of, classified, 203 sqq.

Pronouns, classification of, 142; inflection of, 143 sqq.

‘Prosthetic’ (auxiliary) vowel, 83.

R

Radical (or isolating) stage of language, 4.

Reduplication, origin and general use of, 52.

— employment of in Greek and Latin Perfect, 187, 195; Present-stem, 205; Aorist, 201.
 — ‘Attic’ in Greek, 189.

Relationship between languages, evidences of, 18.

— illustrations of, for Indo-European family, 23; for Romanic languages, 24, 25.

Romanic or ‘Romance’ languages, their descent from Latin, 19.

Roots, definition of, 94 sqq.
 — list of pronominal, 97 note.

S

Sanskrit, relationship of, to Greek and Latin, 17.

— alphabet, and value of to philologists, 38; Table of, Preface, *ad fin.*

Scipios, epitaphs of the, 241–243.

Slavonic group of languages, 12, 15.

Semivowels (fricative consonants),
as distinguished from mutes, 32.
— in limited sense, consonantal
sound of *i*, *u*, 35 note.
Senatusconsultum de Bacchanali-
bus, extract from, 243.
Sounds, relative strength and phys-
ical conditions of, 29.
Sounds, relation of, to letters of the
alphabet, 37.
Spirants (*s*, *t*, *f*, *v*), their connection
with *spiritus asper* and *lenis*, 35.
— changes of, 65-69.
'Spiritus' 'asper,' and 'lenis,' 34.
Stems, how distinguished from roots
and inflected words, 98.
Suffixes, different kinds of, 100.

T

Tense-steins, 160; classification of,
162.
Tenues, meaning of term, and va-
rious names for, 32.
Terminational stage of language;
see 'Inflectional.'
Teutonic group of languages, 12.
Thematic (connecting) Vowel, 165.

Transliteration of Sanskrit charac-
ters, Preface, *ad fin.*
Turanian family of languages, 8.

V

Verb, how distinguished from noun,
158.
Verb, forms of, more complex than
those of nouns, *ib.*
— inflection, elements of, 161.
Vocative, not a case, 105; forms of,
in Greek and Latin, 117, 118.
Voice, distinctions of, in Sanskrit
and Greek, 177.
Vowels, meaning of term, 30; enum-
eration of, 35, 36; changes of,
56; substitution, *ib.*; loss, 59;
assimilation, 61; dissimilation, 62.
— auxiliary, prefixed or inserted,
83.
Vowel-scales, 54, 55.

W

Word-formation, processes of, 99.
Words, analysis of, into radical and
formative elements, 92.
— division of, into noun and verb
exhaustive, 93.

INDEX OF SOUNDS AND FORMS EXPLAINED.

[N.B.—In order to keep Greek and Latin forms together in this Index, the different order of the respective alphabets has been thus adjusted: η , ω (= \bar{e} , \bar{o}) appear under e , o ; γ under g ; θ (*th*) under t ; ζ under z ; ξ under x : ϕ , χ , ψ , appear in their usual place, after u .]

- A, the vowel, 35.
— breaking up of, into E, O, 36, 54, 95.
-a, accus. sing., 115.
-ā, instrumental sing., 131.
-a, -ka, perf. termination, 192, 193.
-ā, -č, adverbial termination (Latin), 247.
-ā, neuter plural, 155.
-a, adverbial termination (Gr.), 251.
-a, thematic, 166.
-ā (orig. ā), I. E. conjunctive suffix, 183.
-a, weakening of, in Latin to i, 58.
absens, *prae-sens*, 236.
acēstis, 228.
accr, ueris, 112; *acerrimus*, 134.
ἀδελφε (voc.), ἀδελφός, 117.
adco, 248.
-ae, nom. plur., 113; gen. sing., 121.
ἀείδεν, infin. (Doric), 231.
ἀγαγεῖν, 160.
ἄγω, *actus*, ἄξω, 77.
ἄγω, in compounds -igo, 58.
ἄγχι, 126.
-ai (archaic), nom. plur., 113; gen. sing., 121.
-auω, -ειωω, verbs in, 104, 209.
αιέι, aiéš (Doric), 126.
αιχμητά, aiχμητής, 110.
ἀλάλημαι, 189.
alicubī, alicunde, 71.
alis, alid, 153.
alins, ἀλλος, 210.
ἐλλομαι (*salio*), 209.
alterat, dative, 153.
am (Eng.), 169.
ἄμα, 131, 251.
ἄμβροτος, 84.
ἄμελγες, 2 sing., 170.
ἄμμες, ἄμμε, 66, 74, 82, 144.
ἄμπεπολάν, 198.
ἄνα, ᄂ̄, 157, 252.
ἄνασσα, 75.
ἄνδρος, 83.
ante-hac, 124.
-ao, -a, gen. sing., 119.
-aw, -ačω, derivative verbs in, 103.
Apolones (old genitive), 62.
appprime, adverb, 248.
ar-biter, *ar-cesso*, etc. (*ad*), 65.
arezzo, 223.
ἄριροται, 189.
'Argan,' meaning of the term, 10.
-as (archaic), nom. plur., 113; acc. plur., 117; gen. sing. (archaic), 121.
-as (I. E.), gen. sing., 118.
asillus, 59.
ἀστῆρ (star, *stella*, etc.), 17, 83.
-atai, -ato, 3 plur. (Epic), 182.
'Athήnησι (locative), 127.
ἀτρέκης, 95.
'Atmane-pada' (Sanskrit), 177.
au, diphthong, in Latin, 36, 56.
aneeps, aneupr-is, 61, 109.
ausim, 66, 221.
aya, verbal suffix, 103.
- B, formation of sound, 33.
b, confusion of, with v sound in Latin, 68.
β, use of, by Greek writers to represent Latin v, *ib.*
b, seldom initial in Sanskrit, 90.
β, parasitie, 84.

- b, d*, parasitic, in modern languages, 84.
-bam, Lat. imperf., 224; quantity of *ā* in, 225.
βασιλέα (*βασιλεύ-s*), 115; *βασιλέως*, 118; *βασιλῆος*, 165.
bem̥, *malē*, 124.
-bhi (-phi), instrumental sing., 131.
-bi, dat. sing., 143; as adverbial termination, 249.
-bhym̥s, dat. sing. (pronominal), 143; *-bhym̥s*, dat. plur., 129.
bibō, 205.
bifuriam, adv., 249.
bin (German), 169.
bis = *δίς*, 50.
-bo, Latin future in, 220; exceptional forms in, of 3rd conjugation, *ib.*
bobus, *bubus*, 139.
βοός (*βού-s*), 118.
boverum, etc., gen. plur., 123.
brother, *frater*, etc., 20, 91.
-bus (-*bos*, -*bios*), dat. plur., 129.
- C, in Latin, 31, 46.
— pronunciation of, 37.
capesso, 223.
capio, in compounds *-cipio*, 58.
-cc, enclitic termination, 157, 248.
cecedi (*cado*), 59.
ceteri, *posteri*, etc., 133.
ci, pronunciation of, in Italian, 78.
ci and *ti*, interchange of, in Latin, 78.
cito, adv., 248.
clamor, *clarus*, 59.
Claudius, *Clodius*, 56.
coarare, *coirare* (old forms of *curare*), 56.
cōyo, 59.
condicio, orthography of, 78.
confluxet, 228.
consumpsē, 228.
corolla, 59.
corpus, *corpor-is*, 58.
coram, 249.
credere, etc. (root *dhā*), 88, 227.
cuenlus, 52.
ceturri (*curro*), 59.
cum (*σύν*), preposition, 50.
cum (*quon*, *quum*), conjunction, 62.
- D, formation of sound, 33.
d, change of, to *l*, *r*, 65.
d, parasitic before *y*, 80.
- d*, 'old' ablative termination in Latin, 124.
-d, neut. sing. termination (pronominal), 151.
dā, *dha*, distinction between roots, 88.
δαιδάλεος, 53.
δάπις, 64.
de, preposition, 156.
-de, adverbial termination, 248.
δέδαε, 201.
dedro, *dedrot*, = *dederunt*, 199.
δείκνυμι, *δείκνύμεν*, quantity of, 191.
δείδιμεν (Ep.), *δέδιμεν*, 192.
δειδίσσομαι, 53.
δελφίν, *δελφίς*, 111.
δή, 131.
δητίοι, 65.
-dem, *-lo*, *-dam*, etc., 156, 249.
denuo, adv., 247.
deus, 156.
diēcō (*in-diēc-are*, *δικη*), 55, 206.
dicundo (*jure*), 57, 61.
δίδη. *διδέντων* (*δέω*), 205.
δίδωμι, 53.
diē, gen. sing., 121.
dies, *Diespiter*, 156.
-diō-s, adjectival termination, 80.
diū, 248.
Dīus Fidīus, 156.
dixi, 59, 228.
δίξηαι, 2 sing., 180.
domīnus, formation of, 98.
dono dedit, 73.
δῶς (imper.), 170.
δότειρα, 107, 240.
δούρρος (*δόρν*), 119.
duellum (*bellum*), *duonorūm* (*bonorum*), 51.
δυγόν (Boeotian) = *ζυγόν*, 80.
dūdum, 248.
duim (*daim*, *δοίηρ*), 186.
-dnm, 156.
- E, a phonetic variety of A, 36, 57, 95; position of, in scale of Latin sounds, 57.
e, affinity of, to *r*, 61.
-e, gen. sing., 121.
ě (orig. ē), abl. sing., 125.
-ē, *-ei*, *-i*, dat. or loc., 128.
ě, pronoun, 145; declension of, 145.
ě, for reduplication, 189.
ě, in conjug. of weak aorist (Epic), 217.
-ě, *-č*, Latin adverbs in, 248.

- ḥα = ḥν, 213.
 ἔαδον, 164.
 -αι (Epic), -ει, -η, 2 sing. mid., 180.
 εεε, 248.
 ecus (*equus*), 62.
 ἔγώ, ἔγών, etc., *ego*, 142, 147.
 clim, 186.
 ἥδεα (ἥδειν), conjugation of, cp. with Latin *videram*, 224.
 ἔξομαι (*sed-es*), 76.
 ει-, for reduplication, 189.
 -ει, 3 sing., 176.
 εἴην, optat., 186; εἴην (= ἐσ-ἴην, syam, siem), conjugation of, *ib.*
 εἴκοσι, *viginti*, 78.
 εἴμι, εἰμί (ἐσμι), 5, 99.
 -ειν (-εσα, -ει), pluperf. 1 sing., 223.
 -ειν, infinitive in, 231.
 εἶναι, ἔμμεναι, 230.
 εἴο, εἴο, εἴν, etc., 146.
 εἴπωμι, conjunctive, 169.
 -ειρα, feminine, 107, 240.
 -εις, 2 sing., 170.
 -εις, -εσσα, adject., 235.
 -εις, plur. of *o*- stems, 114; of *i*- stems, 113.
 -εις, dat. plur. of *is*, 63, 155.
is = *is*, 154.
is, nom. plur. of *is*, 114, 155.
 εἰς, preposition, 157.
 εἰστήκειν, 66.
 ἐκ ποιτόφιν, 131.
 ἔκτονα, perfect, 79.
 ἐλάσσων, 75, 209.
 -ηρ, aor. pass., 225.
 -ειν, Doric infinitive, 231.
 -ellus, -illus, ullus. (diminutives), 59.
 ἡλυθον, εἱλήλονθα, 54, 83.
 -ειν, accus. sing. in Latin, 116.
 -ειν, subj. (optative) forms in, 186.
 ἐμεῖο, ἐμεῖν, ἐμοῦν, gen. sing., 143.
 ἡμεῖ, 66, 144.
 ἐμύν, 143.
 ἐμύ (Aeolic), 74; ḥν, imp., 213.
 -enulo (*in*), 157.
 -εναι, infinitive, 230.
 ἔνειμα, ἔνειμα, ἔστειλα, ἔστελλα, etc., 216.
 enim, nam, 83, 249.
 ἡνίπαπε (aorist), 201.
 ἔννυμι, *res-tis*, 74.
 -ens, -ent-is, participial termination, 103, 236.
 ἔον (imperf. εἰμι), 213.
 -εω, -εξω, derivative verbs in, 104, 209, 210.
 -εω, gen. sing. of *a*- stems in Greek, 119.
 ἔώθοντ, ἔωνούμην, ἔώρων, etc., 164.
 ḥφι βίηφι, 131.
 ἔπομαι, sequor, 50.
 equester, 79.
 equidem, quidem, 83.
 equus (*ἵππος*, αένας), 49, 50.
 eram, conjugation of, cp. with Skt. āsam, Gk. ḥα, ḥn, 213; quantity of ā in, *ib.*
 -ere, 3 plur. perf. indic., 58.
 -ερε, 2 sing. pass., 58.
 ergo, adv., 247.
 ἔργον (work), 68, 71.
 era, 221.
 ἔρρεον, 165.
 erunt, 3 plur. perf. indic., 199; tendency to shorten e of, *ib. note.*
 ἔς (*sum*), ἔς (*edo*), 170.
 -ες, nom. plur., 112; -ς (Lat.), 113.
 -εσσ, feminine termination, 108.
 ἔσσα (ἔννυμι), 216.
 esse (*edo*), 74, 233; (*sum*), 233.
 ἔσσενα, ἔχενα, 216, 217.
 ἐσ-μέν, ἐσ-τέ, 17.
 ἐσσεῖται, Doric fut., 218.
 ἐσ-σι (εῖ), 17, 170.
 ἔσσων, 75, 209.
 est (*edo*), 79.
 ἐσταύτες, 236.
 ἐστελλα (Aeolic), 1 aor., 74.
 ἔσθα, 171.
 ἔθην, ἔθέμην, conjugation of, 200.
 εὐāδε (Epic), 164.
 euntes, 61, 62, 236.
 extempla, 247.
 exict, 220.
- F in Latin alphabet, 43, 69.
 f sound, formation of, 35; pronunciation, 69.
 f representing aspirate sounds, 70.
 facesso, 223.
 facillimus, 75, 134.
 fulla, σφάλλω, 71.
 famul, 67.
 fari, 70.
 fāri (cp. ēgi, jēci, etc.), quantity of, 196.
 faxim, 221.
 femina, 70.
 feriae (*fes-tus*), 66.
 ferrem, 75, 227.
 fidē, gen. sing., 121.

*fides, fido, foedus (foidos), 55.
foedos, fordeum (=hoedus, hordeum), 70.
fores (θύρα, door), 70.
frac-tus, frag-or, 49; frango, 207.
fui, 70, 197.
fundō, σφενδόνη, 71.*

G, in Latin, 31, 46; pronunciation of, 37.
*gaudeo, gacisus, 59.
γενέτειρα, 63.
γεν-έ-της, 165.
γένος, genus, janas, 58.
generis, γένος, 61, 66, 120.
genus, declension of, 137.
gigno, γίγνω, 205.
γύναι (voc.), 118.*

H, the character, 43.

*h, sound of, 34.
h, insertion of, after p, t, c, r, in Latin, 82.
harena, harundo, haruspex, etc., orthography of, 82.
Ἐκάβη, Hecuba (Hecuba), 61.
heri (λθές), hesternus, 66, 126.
hic, peculiarities in declension of, 154.
hiemps, hieus, 50, 84.
hisee, nom. plur., 114.
hoc = huc, 154.
houřr, houřris, 60.*

I, vowel, 35; semivowel (Y), ib.; attempts to distinguish them, 47; to represent ī, ib.

I, scale of, 54, 55.
i sound, weakness of, 57, 59.
i representing a in Latin, 58.
i, loss of, in Latin, 59.
i, affinity of, for dental sounds, 62.
i becomes e in contact with a, o, u, 62.
i (*y*), sound thrown back, 104.
-i, nom. plur. of Latin o-stems, 114; gen. sing., 120.
-ī (-ei), abl. sing., 125.
-ī (Gk. *i*), loc. sing. (orig. *in*), 126.
-i, increase of pronominal stems by, in Latin, 152; *i*, Greek suffix, ib.
i (perf. subj.) and *i* (2 fut. indic.), confusion of, 184.

i, characteristic of Latin perfect, 198.
iam, 156.
-ιε-, -ηη, -ι, Gk. optative suffix, 185.
īημι, 205.
īēval, ἵμεναι, 230.
īeus, euntis, 236.
-īer, -ī, pass. infin., 234; period of transition between, 235.
īllectum, cp. with elicitum, 239.
īllīeo, adv., 247.
īllīus, ipsius, etc., 62, 152.
-īm, accus., nouns which retain, 115.
-īm (-iu), locative, of pronouns, 153; as adverbial termination, 249.
-īm, subjunctive (optat.) forms in, 186.
īmago, imitor, 205.
īpēv (εἰμ), 206; īmus (εἴο), ib.
-īmus, 1 plur. perf. indic., quantity of, 199.
īnclatus, 239.
īndūperator, 248.
-īnis, genitive from Latin nouns in -o(u), homo, etc., 62.
īnquam, 169.
īntervīlin, 156.
-īω, -īo, verb forms in, 104, 208-211.
īōper, conjunctive, 183.
-īw̄, -īor, comparative suffixes, 132, 133.
īāw̄, īāva, īāv̄ya (dialectic for ἔγώ).
īππos (equus, aevias), 49, 50, 74, 82, 140.
īππōtā, īππōt̄ys, 110.
īpsus, ipse, 58, 67, 153.
-īs, -īt, of 3 conjug., quantity of, 210.
-īs, dat. plur., 130.
īsāsī, 176.
īt̄pēv, 77.
-īsse, perfect infin., 198, 232.
-īssimūs, superlative, 75, 134.
īste, declension of, 150.
īst̄t̄ (īst̄ta θī), 171; īst̄tas (partic.), 236; īst̄ti (εἰμί and οἶδα), 170.
īst̄to-s, Greek superlative, 134.
īst̄tp̄, 79.
-īt, 3 sing. perf. indic., quantity of, 197 note.
īta, 156.
īt̄qum, συγόν, 80.
īt̄re dicundo (dative?), 128.
īgor, Epic aor. īκω, 216.
īt̄w̄, 205.

k, k, in Sanskrit, 33.
K, in Latin, 46.
KAL. (*Kalendae*), *ib.*
-κα, ‘weak perfect,’ 193; aorist, *ib.*
καλαύροψ, 165.
καπνός, *vapor*, 50.
κεκάδων, *κέκλυθι, κεχάροντο*, etc., 201.
κένεος (*Epic*), 65.
Κίλισσα, 210.
κλαυσούμεθα, Doric future, 218.
-κον, aorist (*ημπλα-κον*, etc.), 201.
κορύσσω (*κύρυθ-ος*), 75, 209.

L, formation of sound, 34; origin of its use as Roman numeral, 46.
l, affinity of, to *u*, 61.
l, interchange of, with *r*, 63, 64.
λλ, by assimilation from *λy*, 101, 104, 209.
ll, in Latin forms, 210.
-la, nom. suffix, 103.
lac, *lact-is*, 73.
lucesso, 223.
lacrima, 65.
λαμβάνω, 208.
lautus, *lotus*, 56.
λείπ-ω, *ἐ-λιπ-ον, λέ-λοιπ-α*, 53, 54.
λέλαθον, *λέλαχον*, 201.
λιλαίει, 180.
λίσσοραι (*λίτ-η*), 75, 209.
-λλω, verbs in, 104, 209.
locussim, 221.
λύσεο, 216.

M, formation of sound, 33.
— history of the character, 44.
— origin of its use as Roman numeral, 46.
-m, 1 sing. termination, Skt. and Latin, 169.
-ma, -mo, -mon, etc., noun suffix, 102.
magie (*magis*), 67.
magister, *minister*, 133.
magistris, nom. plur., 114.
-μαι, -σαι, -ται, middle and pass., theories of their formation, 179.
malle, 233.
μαρμάρειν, 52.
-mas (Skt.), *-μες, -μυς*, 1 plur., 169.
μαχέσσομαι, *μαχέσσομαι, μαχοῦμαι*, 218.
medius, *μέσσος*, 210.
μέλι, *μέλιτ-ος*, 72.

melior, 133; form, as compared with *μᾶλλον*, 210.
memoria, 53.
-μεν, -μες (-mus), 1 pers. plur., 169.
-μεναι, -μεν, infin. in, 229.
-μενο-s, participial suffix, 102, 236.
μέρμηρα, 50.
-μεθα, -μεσθα, 181; *-μεθον* (dual), 182.
-μι, 1 pers. sing., 169.
miles, *milit-is*, 61.
μιμέομαι, 52, 206.
-mini, 2 plur. pass., 178.
modo, adv., 247.

N, formation of sound, 33.
ν, a final sound in Greek, 72.
-ν, accus. sing. in Greek, 115.
-ν, 1 sing. termination, 169.
-να, -νε, -νη, -νν, use of, to form the present stem, 207.
-ναμ, termination, 156.
ναῦς (*navis, nauis*), paradigm of, 139.
ναῦν, νῆα, 115.
νε (nate), ναι, νή, 157, 248.
-νε, adverbial term, 248.
νεγ-οτιον (nev), 64.
νεμπε, 248.
νεύς (navas, norus), 36.
νέποδες, 64.
nolle, 233.
νος, 144; *νώ, νῶε, νῶι, νῶιν, ib.*
-νς, accus. plur. in Gothic, 116.
-ντ, final sound in Latin, 72; treatment of stems in, 110, 111.
num, *nunc*, 157.

O, a phonetic variety of A, 36, 54, 57, 95.
Ο μικρόν and Ω *μεγά*, 43.
-ο, ablat. sing., 124; Latin adverbs in, 247.
-ω, 1 pers. sing., 99.
-φ, -ά, dat. sing., 128.
-ω, -ώ, classification of verbs in, 168.
ώ (εσ-ω-μι), conjugation of, 184.
-ώ, contracted futures in, 219; ‘Attic’ future in, *ib.*
ocurro (obc.), 74.
όδοις, *dens*, 83, 86.
-οι, -αι, nom. plur., 112.
οῖδα (*Fidēiν, video*), 68; conjugation of, compared with Skt. *veda*, Lat. *vidi*, 190.

- οἶκος* (*vicus*), *οἶνος* (*vinum*), 71.
-οιμι, *-οιην*, optat., 185.
-οιν, dat. dual, 130; *-οῖν* (Epic), *ib.*
οῖνος = *unum*, 73, 242.
οῖσθα, 171.
οllus, *olim*, 153.
ὅμιλα, 74.
ὅμφαλος, 83.
-ων, gen. plur., 122; participle, 232.
ὄνομα, *nomen*, 83.
-οντ, participle stem, (Lat. *-ent*), 232.
-οντι (-ουσι), *-unt*, 3 pers. plur., 57, 176; *-ονται*, *-οντο*, 182, 183.
-όντων (Doric *-όντω*), *-unto*, 3 plur. imperative, 176.
-οω, *-οξω*, derivative verbs in, 104.
ὅφείλω. *ὅφέλλω*, 266.
ὅρσο, 181, 212.
-ώς, *-νία*, *-ός* (*For-*), perf. participle, 231.
-ως, Gk. adverbial termination, 124.
ὅς (*σήos*, *suis*), 66, 145; *ὅς* and *ὅ*, 151.
-oso, adjectival suffix, 235.
-ον, gen. sing., 119.
-ον (-εσο, -εο), 2 sing. mid., 180.
-ονσα, fem. participle, 236.
ὅψ, *vox*, paradigm of, 135.
- P, formation of sound, 33; the character, 42.
p, seldom initial in Gothic and Saxon, 90.
p, insertion of, between *m* and *t, s, l*, 84, 238.
pae-iscor, *πήγ-νυμι*, 64.
padas (Skt.) = *ποδός*, *πόδες*, *πόδας*, 57.
pangunt (XII Tab.) = *pangunt*, 202.
παιπαλέεις, 53.
παιμφάνειν, 53.
‘*Parasmai pada*’ (Skt.), 177.
parentes, *parientes*, 202.
Parilia (*Palilia*), 79.
paterfamilias (gen.), 121.
-pe, 157, 248.
πείθω, *πέποιθα*, 54.
pejero, 71.
perigi (*pae-tum*), 59.
πέπεισμαι, 77.
πέπιθον, 201.
pepuli, *expuli*, 195.
-per (adverbial), 250.
perperam, 249.
πεσοῦμαι, future, 219.
- petesso*, 223.
πίπτω, 53, 59.
plawlo, *cav-plodo*, 56.
πλευσεῖσθαι, *πλευσούμεθα*, Doric fut., 218.
πλεχθείς (*πλέκ-ω*), 50, 76.
πλούσιος, 78, 175.
πόλεις, *πόλιες* (Ionic), 112; *πόλεις*, accus. plur., 117.
πόλεως, *πόλης*, *πόλιος* (Ion.), gen. sing., 119.
pone, adverb, 248.
pono, *posui*, 71.
posse, 233.
possem, etc., 227.
porgo, *porrigo*, 59.
pote (*potis*), 67.
postriulie, 126.
πούς (*pes*), 91.
πράγμα, *πράγματος*, 98.
πραξίομες (Doric), future, 65, 218.
praeiens, 103, 236.
pridie, 156.
procus, *precor*, 55.
propediem, 156.
-pte, adverbial termination, 248.
- Q, Φ (Koppa), 45.
quaestor, *quaesitor*, 59.
quaestuus, *quaesti* (gen. sing.), 120.
quando, 248.
quattuor, *τέτταρες*, 51.
que, 248.
ques, nom. plur., 114.
qui, adverb, 117, 248.
quia, 247.
quine, *quin*, 248.
quis, *τίς*, 51.
quoad, 248.
quod, 250.
quoici, dative, 128, 152, 155.
quom, *quum*, *cum*, 62, 154.
- R, formation of sound, 34; the character, 42.
r, affinity of to *e*, 61.
-r (= *se*), characteristic of Latin passive terminations, 178.
-re (-*se*), Latin infinitive, 232; original quantity of, 233.
recepso, 221.
-rem, imperf. conjunctive, 227.
remus, 71.
ρέω, *ἔρρευσα*, *ἔρρυν*, etc., 70, 206.
reppuli, *repperi*, *rettuli*, 195.
ρίζα (*Wurzel*, *wort*), 71, 76.

- Roma*, 71.
 -*rum*, gen. plur., 122.
 -*ruri*, 126.
- S**, S, different forms of, 43.
 s, changed to r between vowels in Latin, 64, 66.
 s (σ), changed to *spiritus asper*, 66.
 σ between vowels lost in Gk., 66.
 -s, final, loss of, 67.
 -s, initial, loss of, 70.
 $\sigma\sigma$ ($\tau\tau$), 75, 209.
 ss, in Latin, 75, 76.
 -s, nominative suffix, 110.
 -s (-as, -es, -es), nom. plur., 112.
 -s, 3 sing. (Eng.), 176.
 s, representing root *as*, -es, various use of in verb formation, 214 note.
 - $\sigma\alpha$, 'weak aorist,' 215.
 - $\sigma\alpha i$, 2 sing. mid., 181.
sal, $\alpha\lambda s$, 64.
sáv, the letter, 44.
 'Sanskrit,' meaning of the term, 11.
σαφῆς, 81.
σχέσ, 171.
 -*seo*, -*σκω*, verb forms in, 211.
scopulus, *σκόπελος*, 61.
secundus = *seq̄uidus*, 57.
seudes ($\xi\delta\sigma$), 35, 64, 66.
 -*σεια*, 'Aeolic optative,' 217.
senatus, *senatus*, *senati* (gen. sing.), 120.
sepultus (*sepelio*), 61.
sepositus, *sepostus*, 238.
sequor, $\xi\pi\mu\alpha i$, 50.
sequor, *socius*, 55.
sero, 205.
 -*σι*, -*s* (Skt. -*si*, -*s*), 2 sing. term., 170.
 -*σι*, -*σσι*, dat. (locat.) plur., 127.
si, *sie*, 155.
 -*σι*, 3 sing., 175.
 -*si*, Latin perfect in, 196.
silo, 205.
silva, $\bar{u}\lambda\eta$, 64.
sim (*siem*), conjugation of, 186.
sisto, 205.
 -*σω* (Doric), future termination, 218.
 -*σο*, 2 sing. mid. (secondary form), 180.
 -*so*, -*sim*, -*sere*, Latin future forms in, 221.
 -*σω*, formation of future in, 218-220.
sollistumum (*tripodium*), 134.
σῶμα, *σώματ-ος*, 72.
sont (French), 17.
- spar-sus*, 239.
 -*ssem*, plup. conj., 227.
 -*σσω* (- $\tau\tau\omega$), verbs in, 75, 209.
σφῶ, *σφῶi*, etc., 145.
 -*st*, 2 sing. term. (Eng. and Germ.), 172.
statim, 249.
stella, 17, 59, 83.
 -*σθα*, 2 sing., 171-174.
 -*σθαι*, inf., 173, 232.
 -*σθε*, 181.
σθένω, 81.
 -*σθω*, 173, 182; -*σθων*, -*σθωσαν*, 182.
 -*sti*, 2 sing., 173.
stultus, *stolidus*, 61.
sub ($\nu\pi\delta$), *sus* ($\bar{u}s$), 35.
σύν, *cum*, 50.
sulcus ($\bar{\delta}\lambda\kappa\sigma$), 61.
summus, 74.
sumpsi, *sumptus* (*sumo*), 238.
συρίσδες (Doric), 170.
sunis ($\sigma\acute{F}\sigma\acute{s}$, $\bar{o}s$), 66, 145.
 -*syia*, gen. sing., 118.
- T, change of, to σ before i, 78, 175; in Latin (-*ti* to -*si*), ib.; (-*tus*. participle suffix, to -*sus*), 239.
 -t, nominative of stems in, 111.
ta-, pronominal stem, declension of, 150.
 -*tar*, the root, modifications of, 95.
 -*tar*, noun suffix (agency), 7, 102, 240.
 -*tara* (-*τερο-σ*), comparative suffix, 133.
τάων, gen. plur., 122.
tago = *tango*, 201.
 -*τε*, 2 plur., 174.
τεοῦ (Epic), gen. sing., 145.
τεταγών, 201.
τετύφθαι, 232.
τετυφώς, *τετυφότ-ος*, 110.
 -*τηρ*, -*τωρ*, -*τρον* (Lat. -*tor*, -*trum*), noun-suffixes, 240.
 -*th*, 3 sing. term. (Eng.), 176.
θέλω, *ἐθέλω*, 83.
 -*θην*, aorist pass., 226.
θῆλυς (*femina*), *θήρ* (*fera*), 35, 86, 91.
θέός, vocative, 118.
θέσ, 171.
 -*θι*, 2 sing. imper., 171.
θίν, *θίσ*, 111.
 -*θω* (pres.), -*θον* (aor.), 226.
θυγάτηρ, daughter, 86.
τιθησι, 3 sing., 175.

- tim*, adverbial termination, 249.
rís, *quis*, 51.
-tis, 2 plur., 175.
-τω, *-to*, verbal suffix (present stem), 208.
-τον, 2 dual, 175.
-τωσατ, 3 plur. imperat., 176.
τρεῖς, *tres*, etc., 20, 86.
τύ (σύ), *thou*, etc., 20, 86, 145.
tugurium (*tego*), 62.
τύρη (Boeotian), 145.
-turus, fut. participle, 240.
turtur, 52.
-tus, participle suffix, 237; *t* of, softened to *s* after dental stems, 239.
τυφθέισ (*τύπ-τω*), 50.
τύφθτι, 1 aor. imper., 170.
τύψας, *τύψατ-ος*, 110.
- U*, vowel sound of, 35.
— character (U) in Greek, 43.
v (=F), changes of, 68.
u, affinity of to *l*, 61, 195.
r (Latin), pronunciation of, 68.
rapor, *καπνός*, 50.
-vas (Skt.), dual, 170.
vayam (Skt.), nom. plur. 1 pron., 170.
ὑβρίς (*ὑπέρ*), 64.
ville, 232.
Veda, *Vedic*, 53.
-ui (-*ei*), Latin perfect in, 196; origin of, 197.
viciens, 79.
victrix, 107.
vidi, conjugation of, cp. with *οἶδα*, etc., 190.
vidiram, cp. with *γέδεα*, *γέδειν*, 224.
riginti, *έκοσι*, 78.
virgo, *virago*, 59.
virrem, 228.
utulo, 52.
-um, gen. plur., 122; adverbial termination, 249.
umor, *umor*, orthography of, 82.
-undus, gerundive termination, 57.
-unt (-*οντι*, -*οντι*), 3 pers. plur., 57, 175-6.
-νω, *-νξω*, etc., derivative verbs in, 104.
volumus, 57.
vōcē, *vōcis*, *vōeo*, 99.
- uos*, *-uuis*, *-uis*, gen. sing. of *u-* stems, 120.
ὑπό, *sub*, 35; *ὑπαλή*, 249.
-ῆς, gen. sing. in Latin, 119, 152.
ὑσμίνη, 66.
usura, 236.
uti, *ut*, 155, 248.
- Φ**, in Greek alphabet, 45; as a numerical sign in Roman ditto, 46.
-φα, ‘aspirated perfect,’ 194.
φάσθω, 174.
φέρων, *ferens*, paradigm of, 136.
φενξοῦμαι, future, 65, 218.
-φι, *-φιν* (-*bhi*), instrumental, 131.
φορέοιστι, 3 plur. (Aeolic), 176.
φράξω, 76.
- X**, history of the character, in Greek and Latin, 45, 46.
χαρίεσσα, 210.
χέω, *έχεα*, *έχεντα*, etc., 70, 206, 216.
χέρψ (Aeolic) = *χείρ*, 111.
χεύω (Aeolic), 68.
χθών, *χθύρος*, 110.
χρῆν, imperfect, 163.
- Ψ**, the character, introduction of, 45.
ψιλὰ γράμματα, *ψιλῶς γράφειν*, 32.
- Ξ** (=κς), history of, 45.
- Υ**, the character, 47.
y, the semivowel sound of *i*, 35.
y, how represented in Greek, 65.
y (i), influence of in assimilation, 75, 209.
-yu (*ja*, *io*, *is*), noun suffix, 102.
-ya (*η*, *ο*, *ι*, etc.), verbal suffix, 103, 185 (optative); 208 (present stem); feminine termination, 107.
-yant (*yans*, *ians*, *-ιων*, *-ιός*), comparative suffix, 132.
yug, the root, 80.
- Z**, in Greek alphabet, 44; in Roman, 46, 47.
Ζεύς, 76.
-ξω (= *δy*, *γy*), verbs in, 104, 209.
ζύγων (root *yug*), 80.
ζύμη, 80.

October, 1883.

Clarendon Press, Oxford

A SELECTION OF

BOOKS

PUBLISHED FOR THE UNIVERSITY BY

HENRY FROWDE,

AT THE OXFORD UNIVERSITY PRESS WAREHOUSE,

7 PATERNOSTER ROW, LONDON.

ALSO TO BE HAD AT THE

CLARENDON PRESS DEPOSITORY, OXFORD.

LEXICONS, GRAMMARS, &c.

(See also Clarendon Press Series, pp. 22, 25, 26.)

A Greek-English Lexicon, by Henry George Liddell, D.D., and Robert Scott, D.D. Seventh Edition, Revised and Augmented throughout. 1883. 4to. cloth, 1*l.* 16*s.*

A copious Greek-English Vocabulary, compiled from the best authorities. 1850. 24mo. bound, 3*s.*

A Practical Introduction to Greek Accentuation, by H. W. Chandler, M.A. Second Edition. 1881. 8vo. cloth, 10*s.* 6*d.*

A Latin Dictionary, founded on Andrews' edition of Freund's Latin Dictionary, revised, enlarged, and in great part rewritten by Charlton T. Lewis, Ph.D., and Charles Short, LL.D., Professor of Latin in Columbia College, New York. 1879. 4to. cloth, 1*l.* 5*s.*

The Book of Hebrew Roots, by Abu 'l-Walîd Marwân ibn Janâh, otherwise called Rabbî Yônâh. Now first edited, with an Appendix, by Ad. Neubauer. 1875. 4to. cloth, 2*l.* 7*s.* 6*d.*

A Treatise on the use of the Tenses in Hebrew.

By S. R. Driver, M.A. Second Edition, Revised and Enlarged. 1881. Extra 8vo. cloth, 7s. 6d.

Hebrew Accentuation of Psalms, Proverbs, and Job. By William Wickes, D.D. 1881. Demy 8vo. stiff cover, 5s.*Thesaurus Syriacus: collegiatur Quatremère, Bernstein, Lorsbach, Arnoldi, Field: edidit R. Payne Smith, S.T.P.*

Fasc. I-VI. 1868-83. sm. fol. each, 1l. 1s.
Vol. I, containing Fasc. I-V. sm. fol. cloth, 5l. 5s.

A Practical Grammar of the Sanskrit Language,
arranged with reference to the Classical Languages of Europe, for
the use of English Students, by Monier Williams, M.A., Boden
Professor of Sanskrit. Fourth Edition, 1877. 8vo. cloth, 15s.*A Sanskrit-English Dictionary, Etymologically
and Philologically arranged, with special reference to Greek, Latin,
German, Anglo-Saxon, English, and other cognate Indo-European
Languages.* By Monier Williams, M.A., Boden Professor of San-
skrit. 1872. 4to. cloth, 4l. 14s. 6d.*Nalopákhyanam. Story of Nala, an Episode
of the Mahá-Bhárata: the Sanskrit text, with a copious Vocabulary,
and an improved version of Dean Milman's Translation, by Monier
Williams, M.A. Second Edition, Revised and Improved. 1879.
8vo. cloth, 15s.**Sakuntalā. A Sanskrit Drama, in seven Acts.*
Edited by Monier Williams, M.A. Second Edition, 1876. 8vo.
cloth, 21s.*An Anglo-Saxon Dictionary, based on the MS.*
Collections of the late Joseph Bosworth, D.D., Professor of Anglo-
Saxon, Oxford. Edited and enlarged by Prof. T. N. Toller, M.A.,
Owens College, Manchester. (To be completed in four parts).
Parts I and II. 1882. 4to. 15s. each.*An Icelandic-English Dictionary, based on the
MS. collections of the late Richard Cleasby. Enlarged and com-
pleted by G. Vigfússon, M.A. With an Introduction, and Life of
Richard Cleasby, by G. Webbe Dasent, D.C.L. 1874. 4to. cloth,
3l. 7s.*

A List of English Words the Etymology of which is illustrated by comparison with Icelandic. Prepared in the form of an APPENDIX to the above. By W. W. Skeat, M.A., 1876. stitched, 2s.

A Handbook of the Chinese Language. Parts I and II, Grammar and Chrestomathy. By James Summers. 1863. 8vo. half bound, 1l. 8s.

An Etymological Dictionary of the English Language, arranged on an Historical Basis. By W. W. Skeat, M.A., Eliington and Bosworth Professor of Anglo-Saxon in the University of Cambridge. 1882. 4to. cloth, 2l. 4s.

A Concise Etymological Dictionary of the English Language. By W. W. Skeat, M.A. 1882. Crown 8vo. cloth, 5s. 6d.

GREEK CLASSICS, &c.

Aristotle: The Politics, translated into English, with Introduction, Marginal Analysis, Notes, and Indices, by B. Jowett, M.A., Regius Professor of Greek. Medium 8vo. *In the Press.*

Aristophanes: A Complete Concordance to. By Henry Dunbar, M.D. 4to. *Just ready.*

Heracliti Ephesii Reliquiae. Recensuit I. Bywater, M.A. Appendix loco additae sunt Diogenis Laertii Vita Heracliti, Particulae Hippocratei De Diaeta Libri Primi, Epistolae Heracliteae. 1877. 8vo. cloth, price 6s.

Homer: A Complete Concordance to the Odyssey and Hymns of Homer; to which is added a Concordance to the Parallel Passages in the Iliad, Odyssey, and Hymns. By Henry Dunbar, M.D., Member of the General Council, University of Edinburgh. 1880. 4to. cloth, 1l. 1s.

Plato: The Apology, with a revised Text and English Notes, and a Digest of Platonic Idioms, by James Riddell, M.A. 1878. 8vo. cloth, 8s. 6d.

Plato: Philebus, with a revised Text and English Notes, by Edward Poste, M.A. 1860. 8vo. cloth, 7s. 6d.

Plato: Sophistes and Politicus, with a revised Text and English Notes, by L. Campbell, M.A. 1867. 8vo. cloth, 18s.

Plato: Theaetetus, with a revised Text and English Notes, by L. Campbell, M.A. Second Edition. 8vo. cloth, 10s. 6d.

Plato: The Dialogues, translated into English, with Analyses and Introductions, by B. Jowett, M.A., Regius Professor of Greek. A new Edition in 5 volumes, medium 8vo. 1875. cloth, 3*l.* 10s.

Plato: The Republic, translated into English, with an Analysis and Introduction, by B. Jowett, M.A. Medium 8vo. cloth, 12s. 6d.

Plato: Index to. Compiled for the Second Edition of Professor Jowett's Translation of the Dialogues. By Evelyn Abbott, M.A. 1875. 8vo. paper covers, 2s. 6d.

Thucydides: Translated into English, with Introduction, Marginal Analysis, Notes, and Indices. By B. Jowett, M.A., Regius Professor of Greek. 2 vols. 1881. Medium 8vo. cloth, 1*l.* 12s.

THE HOLY SCRIPTURES, &c.

The Holy Bible in the earliest English Versions, made from the Latin Vulgate by John Wycliffe and his followers: edited by the Rev. J. Forshall and Sir F. Madden. 4 vols. 1850. Royal 4to. cloth, 3*l.* 3s.

Also reprinted from the above, with Introduction and Glossary by W. W. Skeat, M.A.

The New Testament in English, according to the Version by John Wycliffe, about A.D. 1380, and Revised by John Purvey, about A.D. 1388. Extra feap. 8vo. cloth, 6s.

The Books of Job, Psalms, Proverbs, Ecclesiastes, and the Song of Solomon: according to the Wycliffite Version made by Nicholas de Hereford, about A.D. 1381, and Revised by John Purvey, about A.D. 1388. Extra feap. 8vo. cloth, 3s. 6d.

The Holy Bible: an exact reprint, page for page, of the Authorized Version published in the year 1611. Demy 4to. half bound, 1*l.* 1s.

Vetus Testamentum ex Versione Septuaginta Interpretum secundum exemplar Vaticanum Romae editum. Accedit potior varietas Codicis Alexandrini. Tomi III. Editio Altera. 18mo. cloth, 18s.

Origenis Hexaplorum quae supersunt; sive,
Veterum Interpretum Graecorum in totum Vetus Testamentum
Fragmenta. Edidit Fridericus Field, A.M. 2 vols. 1875. 4to.
cloth, 5l. 5s.

Libri Psalmorum Versio antiqua Latina, cum
Paraphrasi Anglo-Saxonica. Edidit B. Thorpe, F.A.S. 1835.
8vo. cloth, 10s. 6d.

Libri Psalmorum Versio antiqua Gallica e Cod.
MS. in Bibl. Bodleiana adservato, una cum Versione Metrica
aliisque Monumentis pervetustis. Nunc primum descriptis et edidit
Franciscus Michel, Phil. Doct. 1860. 8vo. cloth, 10s. 6d.

The Psalms in Hebrew without points. 1879.
Crown 8vo. cloth, 3s. 6d.

The Book of Wisdom: the Greek Text, the
Latin Vulgate, and the Authorised English Version; with an In-
troduction, Critical Apparatus, and a Commentary. By William
J. Deane, M.A., Oriel College, Oxford; Rector of Ashen, Essex.
Small 4to. cloth, 12s. 6d.

The Book of Tobit. A Chaldee Text, from a
unique MS. in the Bodleian Library; with other Rabbinical Texts,
English Translations, and the Itala. Edited by Ad. Neubauer, M.A.
1878. Crown 8vo. cloth, 6s.

A Commentary on the Book of Proverbs. Attri-
buted to Abraham Ibn Ezra. Edited from a Manuscript in the
Bodleian Library by S. R. Driver, M.A. Crown 8vo. paper cover,
3s. 6d.

Horae Hebraicae et Talmudicae, a J. Lightfoot.
A new Edition, by R. Gandell, M.A. 4 vols. 1859. 8vo. cloth,
1l. 1s.

Novum Testamentum Graece. Antiquissimorum
Codicum Textus in ordine parallelo dispositi. Accedit collatio
Codicis Sinaitici. Edidit E. H. Hansell, S.T.B. Tomi III. 1864.
8vo. half morocco, 2l. 12s. 6d.

Novum Testamentum Graece. Accedunt paral-
lela S. Scripturae loca, necnon vetus capitulorum notatio et canones
Eusebii. Edidit Carolus Lloyd, S. T. P. R., necnon Episcopus
Oxonensis. 18mo. cloth, 3s.

The same on writing paper, with large margin, cloth, 10s.

Novum Testamentum Graece juxta Exemplar
Millianum. 18mo. cloth, 2s. 6d.

The same on writing paper, with large margin, cloth, 9s.

Evangelia Sacra Graece. fcap. 8vo. limp, 1s. 6d.

The Greek Testament, with the Readings
adopted by the Revisers of the Authorised Version:—

- (1) Pica type. Second Edition, with Marginal References.
Demy 8vo. cloth, 10s. 6d.
- (2) Long Primer type. Fcap. 8vo. cloth, 4s. 6d.
- (3) The same, on writing paper, with wide margin, cloth, 15s.

The Parallel New Testament, Greek and English; being the Authorised Version, 1611; the Revised Version, 1881; and the Greek Text followed in the Revised Version. 8vo. cloth, 12s. 6d.

The Revised Version is the joint property of the Universities of Oxford and Cambridge.

The Gospel of St. Mark in Gothic, according to
the translation made by Wulfila in the Fourth Century. Edited
with a Grammatical Introduction and Glossarial Index by W. W.
Skeat, M.A. Extra fcap. 8vo. cloth, 4s.

Canon Muratorianus: the earliest Catalogue
of the Books of the New Testament. Edited with Notes and a
Facsimile of the MS. in the Ambrosian Library at Milan, by S. P.
Tregelles, LL.D. 1867. 4to. cloth, 10s. 6d.

FATHERS OF THE CHURCH, &c.

St. Athanasius: Orations against the Arians.
With an Account of his Life by William Bright, D.D. 1873.
Crown 8vo. cloth, 9s.

St. Athanasius: Historical Writings, according
to the Benedictine Text. With an Introduction by William Bright,
D.D. 1881. Crown 8vo. cloth, 10s. 6d.

St. Augustine: Select Anti-Pelagian Treatises,
and the Acts of the Second Council of Orange. With an Introduction
by William Bright, D.D. Crown 8vo. cloth, 9s.

The Canons of the First Four General Councils of Nicaea, Constantinople, Ephesus, and Chalcedon. 1877. Crown 8vo. cloth, 2s. 6d.

Notes on the Canons of the First Four General Councils. By William Bright, D.D. 1882. Crown 8vo. cloth, 5s. 6d.

Cyrilli Archiepiscopi Alexandrini in XII Prophetas. Edidit P. E. Pusey, A.M. Tomi II. 1868. 8vo. cloth, 2l. 2s.

Cyrilli Archiepiscopi Alexandrini in D. Joannis Evangelium. Accedunt Fragmenta Varia necnon Tractatus ad Tiberium Diaconum Duo. Edidit post Aubertum P. E. Pusey, A.M. Tomi III. 1872. 8vo. 2l. 5s.

Cyrilli Archiepiscopi Alexandrini Commentarii in Lucae Evangelium quae supersunt Syriace. E MSS. apud Mus. Britan. edidit R. Payne Smith, A.M. 1858. 4to. cloth, 1l. 2s.

The same, translated by R. Payne Smith, M.A. 2 vols. 1859. 8vo. cloth, 14s.

Ephraemi Syri, Rabulae Episcopi Edesseni, Balaei, aliorumque Opera Selecta. E Codd. Syriacis MSS in Museo Britannico et Bibliotheca Bodleiana asservatis primus edidit J. J. Overbeck. 1865. 8vo. cloth, 1l. 1s.

Eusebius' Ecclesiastical History, according to the text of Burton, with an Introduction by William Bright, D.D. 1881. Crown 8vo. cloth, 8s. 6d.

Irenaeus: The Third Book of St. Irenaeus, Bishop of Lyons, against Heresies. With short Notes and a Glossary by H. Deane, B.D., Fellow of St. John's College, Oxford. 1874. Crown 8vo. cloth, 5s. 6d.

Patrum Apostolicorum, S. Clementis Romani, S. Ignatii, S. Polycarpi, quae supersunt. Edidit Guil. Jacobson, S.T.P.R. Tomi II. Fourth Edition, 1863. 8vo. cloth, 1l. 1s.

Socrates' Ecclesiastical History, according to the Text of Hussey, with an Introduction by William Bright, D.D. 1878. Crown 8vo. cloth, 7s. 6d.

ECCLESIASTICAL HISTORY, BIOGRAPHY, &c.

Baccaea Historia Ecclesiastica. Edited, with English Notes, by G. H. Moberly, M.A. 1881. Crown Svo. cloth, 10s. 6d.

Bright (W., D.D.). Chapters of Early English Church History. 1878. Svo. cloth, 12s.

Burnet's History of the Reformation of the Church of England. A new Edition. Carefully revised, and the Records collated with the originals, by N. Pocock, M.A. 7 vols. 1865. Svo. Price reduced to 1l. 10s.

Councils and Ecclesiastical Documents relating to Great Britain and Ireland. Edited, after Spelman and Wilkins, by A. W. Haddan, B.D., and W. Stubbs, M.A., Regius Professor of Modern History, Oxford. Vols. I. and III. 1869-71. Medium 8vo. cloth, each 1l. 1s.

Vol. II. Part I. 1873. Medium Svo. cloth, 10s. 6d.

Vol. II. Part II. 1878. Church of Ireland; Memorials of St. Patrick. Stiff covers, 3s. 6d.

Hammond (C. E.). Liturgies, Eastern and Western. Edited, with Introduction, Notes, and a Liturgical Glossary. 1878. Crown Svo. cloth, 10s. 6d.

An Appendix to the above. 1879. Crown Svo. paper covers, 1s. 6d.

John, Bishop of Ephesus. The Third Part of his Ecclesiastical History. [In Syriac.] Now first edited by William Cureton, M.A. 1853. 4to. cloth, 1l. 12s.

The same, translated by R. Payne Smith, M.A. 1860. 8vo. cloth, 10s.

The Leofric Missal, as used in the Cathedral of Exeter during the Episcopate of its first Bishop, A.D. 1050-1072; together with some Account of the Red Book of Derby, the Missal of Robert of Jumièges, and a few other early MS. Service Books of the English Church. Edited, with Introduction and Notes, by F. E. Warren, B.D. 4to. half morocco, 35s.

The Liturgy and Ritual of the Celtic Church. By F. E. Warren, B.D. 1881. Svo. cloth, 14s.

The Ancient Liturgy of the Church of England, according to the uses of Sarum, York, Hereford, and Bangor, and the Roman Liturgy arranged in parallel columns, with preface and notes. By William Maskell, M.A. Third Edition. 1882. 8vo. cloth, 15s.

Monumenta Ritualia Ecclesiae Anglicanae. The occasional Offices of the Church of England according to the old use of Salisbury the *Prymer* in English, and other prayers and forms, with dissertations and notes. By William Maskell, M.A. Second Edition. 1882. 3 vols. 8vo. cloth, 2l. 10s.

Records of the Reformation. The Divorce, 1527-1533. Mostly now for the first time printed from MSS. in the British Museum and other libraries. Collected and arranged by N. Pocock, M.A. 1870. 2 vols. 8vo. cloth, 1l. 16s.

Shirley (W. W.). Some Account of the Church in the Apostolic Age. Second Edition, 1874. fcap. 8vo. cloth, 3s. 6d.

Stubbs (W.). Registrum Sacrum Anglicanum. An attempt to exhibit the course of Episcopal Succession in England. 1858. small 4to. cloth, 8s. 6d.

ENGLISH THEOLOGY.

Butler's Works, with an Index to the Analogy. 2 vols. 1874. 8vo. cloth, 11s.

Butler's Sermons. 8vo. cloth, 5s. 6d.

Butler's Analogy of Religion. 8vo. cloth, 5s. 6d.

Hewartley's Harmonia Symbolica: Creeds of the Western Church. 1858. 8vo. cloth, 6s. 6d.

Homilies appointed to be read in Churches. Edited by J. Griffiths, M.A. 1859. 8vo. cloth, 7s. 6d.

Hooker's Works, with his Life by Walton, arranged by John Keble, M.A. Sixth Edition, 1874. 3 vols. 8vo. cloth, 1l. 11s. 6d.

Hooker's Works; the text as arranged by John Keble, M.A. 2 vols. 1875. 8vo. cloth, 11s.

Pearson's Exposition of the Creed. Revised and corrected by E. Burton, D.D. Sixth Edition, 1877. 8vo. cloth, 10s. 6d.

Waterland's Review of the Doctrine of the Eucharist, with a Preface by the present Bishop of London. 1880. Crown 8vo. cloth, 6s. 6d.

Wheatly's Illustration of the Book of Common Prayer. A new Edition, 1846. 8vo. cloth, 5s.

Wyclif. A Catalogue of the Original Works of John Wyclif, by W. W. Shirley, D.D. 1865. 8vo. cloth, 3s. 6d.

Wyclif. Select English Works. By T. Arnold, M.A. 3 vols. 1869-1871. 8vo. cloth. Price reduced to 1l. 1s.

Wyclif. Trialogus. With the Supplement now first edited. By Gotthard Lechler. 1869. 8vo. cloth. Price reduced to 7s.

HISTORICAL AND DOCUMENTARY WORKS.

British Barrows, a Record of the Examination of Sepulchral Mounds in various parts of England. By William Greenwell, M.A., F.S.A. Together with Description of Figures of Skulls, General Remarks on Prehistoric Crania, and an Appendix by George Rolleston, M.D., F.R.S. 1877. Medium 8vo. cloth, 25s.

Britton. A Treatise upon the Common Law of England, composed by order of King Edward I. The French Text carefully revised, with an English Translation, Introduction, and Notes, by F. M. Nichols, M.A. 2 vols. 1865. Royal 8vo. cloth, 1l. 16s.

Clarendon's (Edw. Earl of) History of the Rebellion and Civil Wars in England. 7 vols. 1839. 18mo. cloth, 1l. 1s.

Clarendon's (Edw. Earl of) History of the Rebellion and Civil Wars in England. Also his Life, written by himself, in which is included a Continuation of his History of the Grand Rebellion. With copious Indexes. In one volume, royal 8vo. 1842. cloth, 1l. 2s.

Clinton's Epitome of the Fasti Hellenici. 1851.
8vo. cloth, 6s. 6d.

Clinton's Epitome of the Fasti Romani. 1854.
8vo. cloth, 7s.

Freeman's (E. A.) History of the Norman Conquest of England; its Causes and Results. In Six Volumes.
8vo. cloth, 5l. 9s. 6d.

Vols. I-II together, 3rd edition, 1877. 1l. 16s.
Vol. III, 2nd edition, 1874. 1l. 1s.
Vol. IV, 2nd edition, 1875. 1l. 1s.
Vol. V, 1876. 1l. 1s.
Vol. VI. Index. 1879. 8vo. cloth, 10s. 6d.

Freeman (E. A.). The Reign of William Rufus and the Accession of Henry the First. 2 vols. 8vo. cloth, 1l. 16s.

Gascoigne's Theological Dictionary ("Liber Veritatum"): Selected Passages, illustrating the condition of Church and State, 1403-1458. With an Introduction by James E. Thorold Rogers, M.P. Small 4to. cloth, 10s. 6d.

Magna Carta, a careful Reprint. Edited by W. Stubbs, M.A., Regius Professor of Modern History. 1879. 4to. stitched, 1s.

Olaf. Passio et Miracula Beati Olavi. Edited from a Twelfth-Century MS. in the Library of Corpus Christi College, Oxford, with an Introduction and Notes, by Frederick Metcalfe, M.A. Small 4to. stiff cover, 6s.

Protests of the Lords, including those which have been expunged, from 1624 to 1874; with Historical Introductions. Edited by James E. Thorold Rogers, M.A. 1875. 3 vols. 8vo. cloth, 2l. 2s.

Rogers's History of Agriculture and Prices in England, A.D. 1259-1793.

Vols. I and II (1259-1400). 1866. 8vo. cloth, 2l. 2s.

Vols. III and IV (1401-1582). 1882. 8vo. cloth, 2l. 10s.

Sturlunga Saga, including the *Islendinga Saga* of Lawman Sturla Thordsson and other works. Edited by Dr. Gudbrand Vigfusson. In 2 vols. 1878. 8vo. cloth, 2l. 2s.

Two of the Saxon Chronicles parallel, with Supplementary Extracts from the Others. Edited, with Introduction, Notes, and a Glossarial Index, by J. Earle, M.A. 1865. 8vo. cloth, 16s.

Statutes made for the University of Oxford, and for the Colleges and Halls therein, by the University of Oxford Commissioners. 1882. 8vo. cloth, 12s. 6d.

Also separately,

Statutes made for the University. 2s.

Statutes made for the Colleges. 1s. each.

Statuta Universitatis Oxoniensis. 1882. 8vo. cloth, 5s.

The Student's Handbook to the University and Colleges of Oxford. Seventh Edition. 1883. Extra cap. 8vo. cloth, 2s. 6d.

MATHEMATICS, PHYSICAL SCIENCE, &c.

Astronomical Observations made at the University Observatory, Oxford, under the direction of C. Pritchard, M.A., Savilian Professor of Astronomy. No. I. 1878. Royal 8vo. paper covers, 3s. 6d.

Treatise on Infinitesimal Calculus. By Bartholomew Price, M.A., F.R.S., Professor of Natural Philosophy, Oxford.

Vol. I. Differential Calculus. Second Edition. 8vo. cloth, 14s. 6d.

Vol. II. Integral Calculus, Calculus of Variations, and Differential Equations. Second Edition, 1865. 8vo. cloth, 18s.

Vol. III. Statics, including AtTRACTIONS; Dynamics of a Material Particle. Second Edition, 1868. 8vo. cloth, 16s.

Vol. IV. Dynamics of Material Systems; together with a chapter on Theoretical Dynamics, by W. F. Donkin, M.A., F.R.S. 1862. 8vo. cloth, 16s.

Rigaud's Correspondence of Scientific Men of the 17th Century, with Table of Contents by A. de Morgan, and Index by the Rev. J. Rigaud, M.A., Fellow of Magdalen College, Oxford. 2 vols. 1841-1862. 8vo. cloth, 18s. 6d.

Vesuvius. By John Phillips, M.A., F.R.S., Professor of Geology, Oxford. 1869. Crown 8vo. cloth, 10s. 6d.

Geology of Oxford and the Valley of the Thames. By the same Author. 1871. 8vo. cloth, 21s.

Synopsis of the Pathological Series in the Oxford Museum. By H. W. Acland, M.D., F.R.S., 1867. 8vo. cloth, 2s. 6d.

Thesaurus Entomologicus Hopeianus, or a Description of the rarest Insects in the Collection given to the University by the Rev. William Hope. By J. O. Westwood, M.A., F.L.S. With 40 Plates. 1874. Small folio, half morocco, 7l. 10s.

Text-Book of Botany, Morphological and Physiological. By Dr. Julius Sachs, Professor of Botany in the University of Würzburg. *A New Edition.* Translated by S. H. Vines, M.A. 1882. Royal 8vo. 1l. 11s. 6d.

Johannes Müller on Certain Variations in the Vocal Organs of the Passeres that have hitherto escaped notice. Translated by F. J. Bell, B.A., and edited with an Appendix, by A. H. Garrod, M.A., F.R.S. With Plates. 1878. 4to. paper covers, 7s. 6d.

MISCELLANEOUS.

Corpus Poeticum Borcale. The Poetry of the Old Northern Tongue, from the Earliest Times to the Thirteenth Century. Edited, classified, and translated, with Introduction, Excursus, and Notes, by Gudbrand Vigfusson, M.A., and F. York Powell, M.A. 2 vols. 1883. 8vo. cloth, 42s.

Bacon's Novum Organum. Edited, with English notes, by G. W. Kitchin, M.A. 1855. 8vo. cloth, 9s. 6d.

Bacon's Novum Organum. Translated by G. W. Kitchin, M.A. 1855. 8vo. cloth, 9s. 6d. (See also p. 38.)

The Works of George Berkeley, D.D., formerly Bishop of Cloyne; including many of his writings hitherto unpublished. With Prefaces, Annotations, and an Account of his Life and Philosophy, by Alexander Campbell Fraser, M.A. 4 vols. 1871. 8vo. cloth, 2l. 18s.

The Life, Letters, &c. 1 vol. cloth, 16s. (See also p. 38.)

The Logic of Hegel; translated from the Encyclopaedia of the Philosophical Sciences. With Prolegomena by William Wallace, M.A. 1874. 8vo. cloth, 14s.

Smith's Wealth of Nations. A new Edition, with Notes, by J. E. Thorold Rogers, M.A. 2 vols. 1880. cloth, 21s.

A Course of Lectures on Art, delivered before the University of Oxford in Hilary Term, 1870, by John Ruskin, M.A., Slade Professor of Fine Art. 8vo. cloth, 6s.

Aspects of Poetry; being Lectures delivered at Oxford by John Campbell Shairp, LL.D., Professor of Poetry, Oxford. Crown 8vo. cloth, 10s. 6d.

A Critical Account of the Drawings by Michel Angelo and Raffaello in the University Galleries, Oxford. By J. C. Robinson, F.S.A. 1870. Crown 8vo. cloth, 4s.

Catalogue of the Castellani Collection of Antiquities in the University Galleries, Oxford. By W. S. W. Vaux, M.A., F.R.S. Crown 8vo. stiff cover, 1s.

The Sacred Books of the East.

TRANSLATED BY VARIOUS ORIENTAL SCHOLARS, AND EDITED BY
F. MAX MÜLLER.

Vol. I. The Upanishads. Translated by F. Max Müller. Part I. The *Khândogya-upanishad*, The *Talavakâra-upanishad*, The *Aitareya-âranyaka*, The *Kaushîtaki-brâhmaṇa-upanishad*, and The *Vâgasaneyi-samhitâ-upanishad*. 8vo. cloth, 10s. 6d.

Vol. II. The Sacred Laws of the Aryas, as taught in the Schools of *Âpastamba*, *Gautama*, *Vâśishtha*, and *Baudhâyanâ*. Translated by Prof. Georg Bühler. Part I. *Âpastamba* and *Gautama*. 8vo. cloth, 10s. 6d.

Vol. III. The Sacred Books of China. The Texts of Confucianism. Translated by James Legge. Part I. The *Shû King*. The Religious portions of the *Shih King*, and The *Ihsîao King*. 8vo. cloth, 12s. 6d.

Vol. IV. The Zend-Avesta. Translated by James Darmesteter. Part I. The *Vendîdâd*. 8vo. cloth, 10s. 6d.

Vol. V. The Pahlavi Texts. Translated by E. W. West. Part I. The *Bundahis*, *Bahman Yast*, and *Shâyast lá-shâyast*. 8vo. cloth, 12s. 6d.

Vols. VI and IX. The *Qur'ân*. Parts I and II. Translated by E. H. Palmer. 8vo. cloth, 21s.

- Vol. VII. The Institutes of Vishnu. Translated by Julius Jolly. 8vo. cloth, 10s. 6d.
- Vol. VIII. The Bhagavadgîtâ, with The Sanatsugâtîya, and The Anugîtâ. Translated by Kâshinâth Trimbak Telang. 8vo. cloth, 10s. 6d.
- Vol. X. The Dhammapada, translated from Pâli by F. Max Müller; and The Sutta-Nipâta, translated from Pâli by V. Fausböll; being Canonical Books of the Buddhists. 8vo. cloth, 10s. 6d.
- Vol. XI. Buddhist Suttas. Translated from Pâli by T. W. Rhys Davids. 1. The Mahâparinibbâna Suttanta; 2. The Dhamma-kakka-ppavattana Sutta; 3. The Tevigga Suttanta; 4. The Akañkheyya Sutta; 5. The Kêtôkhila Sutta; 6. The Mahâ-sudassana Suttanta; 7. The Sabbâsava Sutta. 8vo. cloth, 10s. 6d.
- Vol. XII. The Satapatha-Brâhmaṇa, according to the Text of the Mâdhyandina School. Translated by Julius Eggeling. Part I. Books I and II. 8vo. cloth, 12s. 6d.
- Vol. XIII. Vinaya Texts. Translated from the Pâli by T. W. Rhys Davids and Hermann Oldenberg. Part I. The Pâtimokha. The Mahâvagga, I-IV. 8vo. cloth, 10s. 6d.
- Vol. XIV. The Sacred Laws of the Âryas, as taught in the Schools of Âpastamba, Gautama, Vâsishtha and Baudhâ-yana. Translated by Georg Bühler. Part II. Vâsishtha and Baudhâ-yana. 8vo. cloth, 10s. 6d.
- Vol. XVI. The Sacred Books of China. The Texts of Confucianism. Translated by James Legge. Part II. The Yî King. 8vo. cloth, 10s. 6d.
- Vol. XVII. Vinaya Texts. Translated from the Pâli by T. W. Rhys Davids and Hermann Oldenberg. Part II. The Mahâvagga, V-X. The Kullavagga, I-III. 8vo. cloth, 10s. 6d.
- Vol. XVIII. Pahlavi Texts. Translated by E. W. West. Part II. The Dâdistân-i Dînîk and The Epistles of Mânûskîhar. 8vo. cloth, 12s. 6d.
- Vol. XIX. The Fo-sho-hing-tsang-king. A Life of Buddha by Asvaghosha Bodhisattva, translated from Sanskrit into Chinese by Dharmaraksha, A.D. 420, and from Chinese into English by Samuel Beal. 8vo. cloth, 10s. 6d.
- Vol. XXIII. The Zend-Avesta. Part II. The Sîrôzahs, Yasts, and Nyâyis. Translated by James Darmesteter. 8vo. cloth, 10s. 6d.

The following Volumes are in the Press:—

- Vol. XV. The Upanishads. Translated by F. Max Müller. Part II.

Vol. XX. *Manu*. Translated by Georg Bühler.

Vol. XXI. *The Saddharma-pundarîka*. Translated by H. Kern.

Vol. XXII. *The Âkârâṅga Sûtra*. Translated by H. Jacobi.

Vol. XXIV. *The Upanishads*. Translated by F. Max Müller. Part III.

Anecdota Oxoniensia:

Classical Series. Vol. I. Part I. *The English Manuscripts of the Nicomachean Ethics*, described in relation to Bekker's Manuscripts and other Sources. By J. A. Stewart, M.A., Classical Lecturer, Christ Church. Small 4to. 3s. 6d.

Classical Series. Vol. I. Part II. *Nomius Marcellus*, de Compendiosa Doctrina, Harleian MS. 2719. Collated by J. H. Onions, M.A., Senior Student of Christ Church. Small 4to. 3s. 6d.

Classical Series. Vol. I. Part III. *Aristotle's Physics*. Book VII. Collation of various MSS.; with an Introduction by R. Shute, M.A. Small 4to. 2s.

Classical Series. Vol. I. Part IV. *Bentley's Platine Emendations*. From his copy of Gronovius. By E. A. Sonnenschein, M.A. Small 4to. 2s. 6d.

Semitic Series. Vol. I. Part I. *Commentary on Ezra and Nehemiah*. By Rabbi Saadiah. Edited by H. J. Mathews, M.A., Exeter College, Oxford. Small 4to. 3s. 6d.

Aryan Series. Vol. I. Part I. *Buddhist Texts from Japan*. Edited by F. Max Müller, M.A. Small 4to. 3s. 6d.

Aryan Series. Vol. I. Part II. *Sukhâvatî-Vyûha*. Description of Sukhâvatî, the Land of Bliss. Edited by F. Max Müller, M.A., and Bunyiu Nanjo. Small 4to. 7s. 6d.

Mediaeval and Modern Series. Vol. I. Part I. *Sinonoma Bartholomei*; A Glossary from a Fourteenth-Century MS. in the Library of Pembroke College, Oxford. Edited by J. L. G. Mowat, M.A., Fellow of Pembroke College. Small 4to. 3s. 6d.

Mediaeval and Modern Series. Vol. I. Part III. *The Saltair Na Rann*. A Collection of Early Middle Irish Poems. Edited from a MS. in the Bodleian Library by Whitley Stokes, LL.D. Small 4to. 7s. 6d.

Clarendon Press Series

The Delegates of the Clarendon Press having undertaken the publication of a series of works, chiefly educational, and entitled the *Clarendon Press Series*, have published, or have in preparation, the following.

Those to which prices are attached are already published ; the others are in preparation.

I. ENGLISH.

A First Reading Book. By Marie Eichens of Berlin ; and edited by Anne J. Clough. Extra fcap. 8vo. stiff covers, 4d.

Oxford Reading Book, Part I. For Little Children. Extra fcap. 8vo. stiff covers, 6d.

Oxford Reading Book, Part II. For Junior Classes. Extra fcap. 8vo. stiff covers, 6d.

An Elementary English Grammar and Exercise Book. By O. W. Tancock, M.A., Head Master of Norwich School. Second Edition. Extra fcap. 8vo. cloth, 1s. 6d.

An English Grammar and Reading Book, for Lower Forms in Classical Schools. By O. W. Tancock, M.A., Head Master of Norwich School. Third Edition. Extra fcap. 8vo. cloth, 3s. 6d.

Typical Selections from the best English Writers, with Introductory Notices. Second Edition. In Two Volumes. Extra fcap. 8vo. cloth, 3s. 6d. each.

Vol. I. Latimer to Berkeley.

Vol. II. Pope to Macaulay.

The Philology of the English Tongue. By J. Earle, M.A., formerly Fellow of Oriel College, and Professor of Anglo-Saxon, Oxford. Third Edition. Extra fcap. 8vo. cloth, 7s. 6d.

A Book for the Beginner in Anglo-Saxon. By John Earle, M.A., Professor of Anglo-Saxon, Oxford. Second Edition. Extra scap. 8vo. cloth, 2s. 6d.

An Anglo-Saxon Reader. In Prose and Verse. With Grammatical Introduction, Notes, and Glossary. By Henry Sweet, M.A. Third Edition. Extra scap. 8vo. cloth, 8s. 6d.

An Anglo-Saxon Primer, with Grammar, Notes, and Glossary. By the same Author. Extra scap. 8vo. cloth, 2s. 6d.

The Ormulum; with the Notes and Glossary of Dr. R. M. White. Edited by Rev. R. Holt, M.A. 1878. 2 vols. Extra scap. 8vo. cloth, 21s.

Specimens of Early English. A New and Revised Edition. With Introduction, Notes, and Glossarial Index. By R. Morris, LL.D., and W. W. Skeat, M.A.

Part I. From Old English Homilies to King Horn (A.D. 1150 to A.D. 1300). Extra scap. 8vo. cloth, 9s.

Part II. From Robert of Gloucester to Gower (A.D. 1298 to A.D. 1393). Second Edition. Extra scap. 8vo. cloth, 7s. 6d.

Specimens of English Literature, from the 'Ploughmans Crede' to the 'Shepheardes Calender' (A.D. 1394 to A.D. 1579). With Introduction, Notes, and Glossarial Index. By W. W. Skeat, M.A. Extra scap. 8vo. cloth, 7s. 6d.

The Vision of William concerning Piers the Plowman, by William Langland. Edited, with Notes, by W. W. Skeat, M.A. Third Edition. Extra scap. 8vo. cloth, 4s. 6d.

Chaucer. The Prioresses Tale; Sir Thopas; The Monkes Tale; The Clerkes Tale; The Squieres Tale, &c. Edited by W. W. Skeat, M.A. Second Edition. Extra scap. 8vo. cloth, 4s. 6d.

Chaucer. The Tale of the Man of Lawe; The Pardoneres Tale; The Second Nonnes Tale; The Chanouns Yemannes Tale. By the same Editor. Second Edition. Extra scap. 8vo. cloth, 4s. 6d. (See also p. 20.)

Old English Drama. Marlowe's Tragical History of Dr. Faustus, and Greene's Honourable History of Friar Bacon and Friar Bungay. Edited by A. W. Ward, M.A., Professor of History and English Literature in Owens College, Manchester. 1878. Extra fcap. 8vo. cloth, 5s. 6d.

Marlowe. Edward II. With Introduction, Notes, &c. By O. W. Tancock, M.A., Head Master of Norwich School. Extra fcap. 8vo. cloth, 3s.

Shakespeare. Hamlet. Edited by W. G. Clark, M.A., and W. Aldis Wright, M.A. Extra fcap. 8vo. stiff covers, 2s.

Shakespeare. Select Plays. Edited by W. Aldis Wright, M.A. Extra fcap. 8vo. stiff covers.

The Tempest, 1s. 6d. King Lear, 1s. 6d.

As You Like It, 1s. 6d. A Midsummer Night's Dream, 1s. 6d.

Julius Cæsar, 2s. Coriolanus, 2s. 6d.

Richard the Third, 2s. 6d. Henry the Fifth, 2s.

Twelfth Night. *In the Press.* (For other Plays, see p. 20.)

Milton. Arcopagitica. With Introduction and Notes. By J. W. Hales, M.A., late Fellow of Christ's College, Cambridge. Second Edition. Extra fcap. 8vo. cloth, 3s.

Milton. Samson Agonistes. Edited with Introduction and Notes by John Churton Collins. Extra fcap. 8vo. stiff covers, 1s.

Bunyan. Holy War. Edited by E. Venables, M.A. *In the Press.* (See also p. 21.)

Locke's Conduct of the Understanding. Edited, with Introduction, Notes, &c., by T. Fowler, M.A., Professor of Logic in the University of Oxford. Second Edition. Extra fcap. 8vo. cloth, 2s.

Addison. Selections from Papers in the Spectator. With Notes. By T. Arnold, M.A., University College. Extra fcap. 8vo. cloth, 4s. 6d.

Burke. Four Letters on the Proposals for Peace with the Regicide Directory of France. Edited, with Introduction and Notes, by E. J. Payne, M.A. Extra fcap. 8vo. cloth, 5s. (See also p. 21.)

Also the following in paper covers:—

Goldsmith. The Deserted Village. 2d.

Gray. Elegy and Ode on Eton College. 2d.

Johnson. Vanity of Human Wishes. With Notes by E. J. Payne, M.A. 4d.

Keats. Hyperion, Book I. With Notes by W. T. Arnold, B.A. 4d.

Milton. With Notes by R. C. Browne, M.A.
Lycidas, 3d. L'Allegro, 3d. Il Pensero, 4d. Comus, 6d.
Samson Agonistes, 6d.

Parnell. The Hermit. 2d.

Scott. Lay of the Last Minstrel. Introduction and Canto I, with Preface and Notes by W. Minto, M.A. 6d.

A SERIES OF ENGLISH CLASSICS,

Designed to meet the wants of Students in English Literature, by the late Rev. J. S. BREWER, M.A., of Queen's College, Oxford, and Professor of English Literature at King's College, London.

1. *Chaucer. The Prologue to the Canterbury Tales; the Knights Tale; The Nonne Prestes Tale.* Edited by R. Morris, Editor of Specimens of Early English, &c., &c. Sixth Edition. Extra scap. 8vo. cloth. 2s. 6d. (See also p. 18.)
2. *Spenser's Faery Queene. Books I and II.* Designed chiefly for the use of Schools. With Introduction, Notes, and Glossary. By G. W. Kitchin, M.A.
Book I. Eighth Edition. Extra scap. 8vo. cloth, 2s. 6d.
Book II. Sixth Edition. Extra scap. 8vo. cloth, 2s. 6d.
3. *Hooker. Ecclesiastical Polity, Book I.* Edited by R. W. Church, M.A., Dean of St. Paul's; formerly Fellow of Oriel College, Oxford. Second Edition. Extra scap. 8vo. cloth, 2s.
4. *Shakespeare. Select Plays.* Edited by W. G. Clark, M.A., Fellow of Trinity College, Cambridge; and W. Aldis Wright, M.A., Trinity College, Cambridge. Extra scap. 8vo. stiff covers.
I. The Merchant of Venice. 1s.
II. Richard the Second. 1s. 6d.
III. Macbeth. 1s. 6d. (For other Plays, see p. 19.)

5. *Bacon.*
- I. *Advancement of Learning.* Edited by W. Aldis Wright, M.A. Second Edition. Extra scap. 8vo. cloth, 4s. 6d.
 - II. *The Essays.* With Introduction and Notes. By J. R. Thrusfield, M.A., Fellow and formerly Tutor of Jesus College, Oxford. *In Preparation.*
6. *Milton.* Poems. Edited by R. C. Browne, M.A. 2 vols. Fifth Edition. Extra scap. 8vo. cloth, 6s. 6d.
Sold separately, Vol. I. 4s.; Vol. II. 3s. (See also p. 20.)
7. *Dryden.* Select Poems. Stanzas on the Death of Oliver Cromwell; *Astraea Redux*; *Annus Mirabilis*; *Absalom and Achitophel*; *Religio Laici*; *The Hind and the Panther*. Edited by W. D. Christie, M.A. Second Edition. Extra scap. 8vo. cloth, 3s. 6d.
8. *Bunyan.* *The Pilgrim's Progress, Grace Abounding.* Relation of the Imprisonment of Mr. John Bunyan. Edited, with Biographical Introduction and Notes, by E. Venables, M.A. 1879. Extra scap. 8vo. cloth, 5s.
9. *Pope.* With Introduction and Notes. By Mark Pattison, B.D., Rector of Lincoln College, Oxford.
 - I. *Essay on Man.* Sixth Edition. Extra scap. 8vo. 1s. 6d.
 - II. *Satires and Epistles.* Third Edition. Extra scap. 8vo. 2s.
10. *Johnson.* *Rasselas; Lives of Pope and Dryden.* Edited by Alfred Milnes, B.A. (London), late Scholar of Lincoln College, Oxford. Extra scap. 8vo. cloth, 4s. 6d.
11. *Burke.* Select Works. Edited, with Introduction and Notes, by E. J. Payne, M.A., of Lincoln's Inn, Barrister-at-Law, and Fellow of University College, Oxford.
 - I. *Thoughts on the Present Discontents;* the two Speeches on America. Second Edition. Extra scap. 8vo. cloth, 4s. 6d.
 - II. *Reflections on the French Revolution.* Second Edition. Extra scap. 8vo. cloth, 5s. (See also p. 19.)
12. *Cowper.* Edited, with Life, Introductions, and Notes, by H. T. Griffith, B.A., formerly Scholar of Pembroke College, Oxford.
 - I. *The Didactic Poems of 1782,* with Selections from the Minor Pieces, A.D. 1779-1783. Extra scap. 8vo. cloth, 3s.
 - II. *The Task,* with *Tirocinium*, and Selections from the Minor Poems, A.D. 1784-1799. Extra scap. 8vo. cloth, 3s.

II. LATIN.

An Elementary Latin Grammar. By John B. Allen, M.A., Head Master of Perse Grammar School, Cambridge. Third Edition, Revised and Corrected. Extra scap. 8vo. cloth, 2s. 6d.

A First Latin Exercise Book. By the same Author. Third Edition. Extra scap. 8vo. cloth, 2s. 6d.

A Second Latin Exercise Book. By the same Author. *In the Press.*

Reddenda Minora, or Easy Passages for Unseen Translation for the use of Lower Forms. Composed and selected by C. S. Jerram, M.A. Extra scap. cloth, 1s. 6d.

Anglice Reddenda, or Easy Extracts, Latin and Greek, for Unseen Translation. By C. S. Jerram, M.A. Second Edition, Revised and Enlarged. Extra scap. 8vo. cloth, 2s. 6d.

Passages for Translation into Latin. For the use of Passmen and others. Selected by J. Y. Sargent, M.A., Fellow and Tutor of Magdalen College, Oxford. Fifth Edition. Extra scap. 8vo. cloth, 2s. 6d.

First Latin Reader. By T. J. Nunns, M.A. Third Edition. Extra scap. 8vo. cloth, 2s.

Second Latin Reader. In Preparation.

Caesar. The Commentaries (for Schools). With Notes and Maps. By Charles E. Moberly, M.A.

Part I. *The Gallic War.* Third Edition. Extra scap. 8vo. cloth, 4s. 6d.

Part II. *The Civil War.* Extra scap. 8vo. cloth, 3s. 6d.

The Civil War. Book I. Extra scap. 8vo. cloth, 2s.

Cicero. Selection of interesting and descriptive passages. With Notes. By Henry Walford, M.A. In three Parts. Second Edition. Extra scap. 8vo. cloth, 4s. 6d. Each Part separately, limp, 1s. 6d.

Part I. Anecdotes from Grecian and Roman History.

Part II. Omens and Dreams: Beauties of Nature.

Part III. Rome's Rule of her Provinces.

Cicero. The De Amicitia and De Senectute. With Notes by W. Heslop, M.A. *In the Press.*

Cicero. Selected Letters (for Schools). With Notes. By the late C. E. Prichard, M.A., and E. R. Bernard, M.A. Second Edition. Extra scap. 8vo. cloth, 3s.

Cicero. Select Orations (for Schools). In Verem I. De Imperio Gn. Pompeii. Pro Archia. Philippica IX. With Notes. By J. R. King, M.A. Second Edition. Extra scap. 8vo. cloth, 2s. 6d.

Cornelius Nepos. With Notes. By Oscar Browning, M.A. Second Edition. Extra scap. 8vo. cloth, 2s. 6d.

Livy. Selections (for Schools). With Notes and Maps. By H. Lee-Warner, M.A. Extra scap. Svo. In Parts, limp, each 1s. 6d.

Part I. The Caudine Disaster.

Part II. Hannibal's Campaign in Italy.

Part III. The Macedonian War.

Livy. Books V–VII. With Introduction and Notes. By A. R. Cluer, B.A. Extra scap. 8vo. cloth, 3s. 6d.

Ovid. Selections for the use of Schools. With Introductions and Notes, and an Appendix on the Roman Calendar. By W. Ramsay, M.A. Edited by G. G. Ramsay, M.A., Professor of Humanity, Glasgow. Second Edition. Extra scap. 8vo. cloth, 5s. 6d.

Pliny. Selected Letters (for Schools). With Notes. By the late C. E. Prichard, M.A., and E. R. Bernard, M.A. Second Edition. Extra scap. 8vo. cloth, 3s.

Catulli Veronensis Liber. Iterum recognovit, apparatus criticum prolegomena appendices addidit, Robinson Ellis, A.M. 1878. Demy 8vo. cloth, 16s.

A Commentary on Catullus. By Robinson Ellis, M.A. 1876. Demy 8vo. cloth, 16s.

Catulli Veronensis Carmina Selecta, secundum recognitionem Robinson Ellis, A.M. Extra scap. 8vo. cloth, 3s. 6d.

Cicero de Oratore. With Introduction and Notes, by A. S. Wilkins, M.A., Professor of Latin, Owens College, Manchester.

Book I. 1879. 8vo. cloth, 6s. Book II. 1881. 8vo. cloth, 5s.

Cicero's Philippic Orations. With Notes. By J. R. King, M.A. Second Edition. 1879. 8vo. cloth, 10s. 6d.

Cicero. Select Letters. With English Introductions, Notes, and Appendices. By Albert Watson, M.A. Third Edition. 1881. Demy 8vo. cloth, 18s.

Cicero. Select Letters. Text. By the same Editor. Extra scap. 8vo. cloth, 4s.

Cicero pro Cluentio. With Introduction and Notes. By W. Ramsay, M.A. Edited by G. G. Ramsay, M.A. Extra scap. 8vo. cloth, 3s. 6d.

Horace. With a Commentary. Volume I. The Odes, Carmen Seculare, and Epodes. By Edward C. Wickham, M.A., Head Master of Wellington College. Second Edition. 1877. Demy 8vo. cloth, 12s.

Horace. A reprint of the above, in a size suitable for the use of Schools. Extra scap. 8vo. cloth, 5s. 6d.

Livy, Book I. With Introduction, Historical Examination, and Notes. By J. R. Seeley, M.A., Regius Professor of Modern History, Cambridge. Third Edition. 1881. 8vo. cloth, 6s.

Ovid. P. Ovidii Nasonis Ibis. Ex Novis Codicibus Edidit. Scholia Vetera Commentarium cum Prolegomenis Appendice Indice addidit, R. Ellis, A.M. Demy 8vo. cloth, 10s. 6d.

Persius. The Satires. With a Translation and Commentary. By John Conington, M.A. Edited by Henry Nettleship, M.A. Second Edition. 1874. 8vo. cloth, 7s. 6d.

Plautus. The Trinummus. With Notes and Introductions. Intended for the Higher Forms of Public Schools. By C. E. Freeman, M.A., and A. Sloman, M.A. Extra scap. 8vo. cloth, 3s.

Virgil. With Introduction and Notes, by T. L. Papillon, M.A., Fellow of New College, Oxford. Two vols. crown 8vo. cloth, 10s. 6d.

Selections from the less known Latin Poets. By North Pinder, M.A. 1869. Demy 8vo. cloth, 15s.

Fragments and Specimens of Early Latin. With Introductions and Notes. 1874. By John Wordsworth, M.A. 8vo. cloth, 18s.

Tacitus. The Annals. Books I-VI. With Introductory Essays and Notes. By H. Furneaux, M.A., late Fellow and Tutor of Corpus Christi College. *In the Press.*

Vergil: Suggestions Introductory to a Study of the Aeneid. By H. Nettleship, M.A. 8vo. sewed, 1s. 6d.

Ancient Lives of Vergil; with an Essay on the Poems of Vergil, in connection with his Life and Times. By H. Nettleship, M.A. 8vo. sewed, 2s.

The Roman Satura: its original form in connection with its literary development. By H. Nettleship, M.A. 8vo. sewed, 1s.

A Manual of Comparative Philology. By T. L. Papillon, M.A., Fellow and Lecturer of New College. Third Edition. 1882. Crown 8vo. cloth, 6s.

The Roman Poets of the Augustan Age. VIRGIL. By William Young Sellar, M.A., Professor of Humanity in the University of Edinburgh. New Edition. 1883. Crown 8vo. cloth, 9s.

The Roman Poets of the Republic. By the same Author. New Edition, Revised and Enlarged. 1881. 8vo. cloth, 14s.

III. GREEK.

A Greek Primer, for the use of beginners in that Language. By the Right Rev. Charles Wordsworth, D.C.L., Bishop of St. Andrews. Sixth Edition, Revised and Enlarged. Extra fcap. 8vo. cloth, 1s. 6d.

Graecae Grammaticae Rudimenta in usum Scholarum. Auctore Carolo Wordsworth, D.C.L. Twentieth Edition, 1882. 12mo. cloth, 4s.

A Greek-English Lexicon, abridged from Liddell and Scott's 4to. edition, chiefly for the use of Schools. Nineteenth Edition. Carefully Revised throughout. 1881. Square 12mo. cloth, 7s. 6d.

Greek Verbs, Irregular and Defective; their forms, meaning, and quantity; embracing all the Tenses used by Greek writers, with references to the passages in which they are found. By W. Veitch. Fourth Edition. Crown 8vo. cloth, 10s. 6d.

The Elements of Greek Accentuation (for Schools): abridged from his larger work by H. W. Chandler, M.A., Waynflete Professor of Moral and Metaphysical Philosophy, Oxford. Extra fcap. 8vo. cloth, 2s. 6d.

A Series of Graduated Greek Readers :—

First Greek Reader. By W. G. Rushbrooke, M.L., formerly Fellow of St. John's College, Cambridge, Second Classical Master at the City of London School. Second Edition. Extra fcap. 8vo. cloth, 2s. 6d.

Second Greek Reader. By A. M. Bell, M.A. Extra fcap. 8vo. cloth, 3s. 6d.

Third Greek Reader. In Preparation.

Fourth Greek Reader; being Specimens of Greek Dialects. With Introductions and Notes. By W. W. Merry, M.A., Fellow and Lecturer of Lincoln College. Extra fcap. 8vo. cloth, 4s. 6d.

Fifth Greek Reader. Part I. Selections from Greek Epic and Dramatic Poetry, with Introductions and Notes. By Evelyn Abbott, M.A., Fellow of Balliol College. Extra fcap. 8vo. cloth, 4s. 6d.

Part II. By the same Editor. In Preparation.

The Golden Treasury of Ancient Greek Poetry; being a Collection of the finest passages in the Greek Classic Poets, with Introductory Notices and Notes. By R. S. Wright, M.A., Fellow of Oriel College, Oxford. Extra fcap. 8vo. cloth, 8s. 6d.

A Golden Treasury of Greek Prose, being a collection of the finest passages in the principal Greek Prose Writers, with Introductory Notices and Notes. By R. S. Wright, M.A., and J. E. L. Shadwell, M.A. Extra fcap. 8vo. cloth, 4s. 6d.

Aeschylus. Prometheus Bound (for Schools).

With Introduction and Notes, by A. O. Prickard, M.A., Fellow of New College. Extra fcap. 8vo. cloth, 2s.

Aeschylus. Agamemnon. With Introduction

and Notes by Arthur Sidgwick, M.A., Tutor of Corpus Christi College, Oxford; late Fellow of Trinity College, Cambridge, and Assistant Master of Rugby School. Extra fcap. 8vo. cloth, 3s.

Aeschylus. The Choephoroe. With Introduction and Notes by the same Editor. Preparing.*Aristophanes. In Single Plays,* edited, with English Notes, Introductions, &c., by W. W. Merry, M.A. Extra fcap. 8vo.

The Clouds, 2s.

The Acharnians, 2s.

Other Plays will follow.

Arrian. Selections (for Schools). With Notes.

By J. S. Phillpotts, B.C.L., Head Master of Bedford School.

Cebes. Tabula. With Introduction and Notes by C. S. Jerram, M.A. Extra fcap. 8vo. cloth, 2s. 6d.*Euripides. Alcestis* (for Schools). By C. S. Jerram, M.A. Extra fcap. 8vo. cloth, 2s. 6d.*Euripides. Helcna.* Edited with Introduction, Notes, and Critical Appendix, for Upper and Middle Forms. By C. S. Jerram, M.A. Extra fcap. 8vo. cloth, 3s.*Herodotus. Selections from.* Edited, with Introduction, Notes, and a Map, by W. W. Merry, M.A., Fellow and Lecturer of Lincoln College. Extra fcap. 8vo. cloth, 2s. 6d.*Homer. Odyssey, Books I–XII* (for Schools).

By W. W. Merry, M.A. Twenty-fourth Thousand. Extra fcap. 8vo. cloth, 4s. 6d.

Book II, separately, 1s. 6d.

Homer. Odyssey, Books XIII–XXIV (for Schools). By the same Editor. Extra fcap. 8vo. cloth, 5s.*Homer. Iliad, Book I* (for Schools). By D. B. Monro, M.A. Extra fcap. 8vo. cloth, 2s.

Homer. Iliad, Books I–XII (for Schools).
By D. B. Monro, M.A. *In the Press.*

Homer. Iliad, Books VI and XXI. With
Introduction and Notes. By Herbert Hailstone, M.A., late Scholar
of St. Peter's College, Cambridge. Extra fcap. 8vo. cloth, 1s. 6d.
each.

Lucian. Vera Historia (for Schools). By
C. S. Jerram, M.A. Extra fcap. 8vo. cloth, 1s. 6d.

Plato. Selections (for Schools). Edited with
Notes by J. Purves, M.A., Fellow and late Lecturer of Balliol
College, Oxford. Extra fcap. 8vo. cloth, 6s. 6d.

Sophocles. In Single Plays, with English Notes,
&c. By Lewis Campbell, M.A., Professor of Greek in the University
of St. Andrew's, and Evelyn Abbott, M.A., Balliol College,
Oxford. Extra fcap. 8vo. limp.

Oedipus Tyrannus. New and Revised Edition. 2s.

Oedipus Coloneus, Antigone, 1s. 9d. each.

Ajax, Electra, Trachiniae, Philoctetes, 2s. each.

Sophocles. Oedipus Rex: Dindorf's Text, with
Notes by the present Bishop of St. David's. Ext. fcap. 8vo. limp,
1s. 6d.

Thucocritus (for Schools). With Notes. By
H. Kynaston, M.A. (late Snow), Head Master of Cheltenham
College. Third Edition. Extra fcap. 8vo. cloth, 4s. 6d.

Xenophon. Easy Selections (for Junior Classes).
With a Vocabulary. Notes, and Map. By J. S. Phillpotts, B.C.L.,
and C. S. Jerram, M.A. Third Edition. Extra fcap. 8vo. cloth,
3s. 6d.

Xenophon. Selections (for Schools). With Notes
and Maps. By J. S. Phillpotts, B.C.L., Head Master of Bedford
School. Fourth Edition. Extra fcap. 8vo. cloth, 3s. 6d.

Xenophon. Anabasis, Book II. With Notes
and Map. By C. S. Jerram, M.A. Extra fcap. 8vo. cloth, 2s.

Xenophon. Cyropaedia, Books IV and V.
With Introduction and Notes by C. Bigg, D.D. *Just ready.*

Aristotle's Politics. By W. L. Newman, M.A.,
Fellow of Balliol College, Oxford.

Aristotelian Studies. I. On the Structure of
the Seventh Book of the Nicomachean Ethics. By J. C. Wilson,
M.A., Fellow of Oriel College, Oxford. 1879. Medium 8vo.
stiff, 5s.

Demosthenes and Aeschines. The Orations of
Demosthenes and Aeschines on the Crown. With Introductory
Essays and Notes. By G. A. Simcox, M.A., and W. H. Simcox,
M.A. 1872. 8vo. cloth, 12s.

Homer. Odyssey, Books I–XII. Edited with
English Notes, Appendices, etc. By W. W. Merry, M.A., and the
late James Riddell, M.A. 1876. Demy 8vo. cloth, 16s.

Homer. Iliad. With Introduction and Notes.
By D. B. Monro, M.A., Provost of Oriel College, Oxford. Pre-
paring.

A Grammar of the Homeric Dialect. By D. B.
Monro, M.A., Provost of Oriel College. Demy 8vo. cloth,
10s. 6d.

Sophocles. The Plays and Fragments. With
English Notes and Introductions, by Lewis Campbell, M.A., Pro-
fessor of Greek, St. Andrews, formerly Fellow of Queen's College,
Oxford. 2 vols.

Vol. I. Oedipus Tyrannus. Oedipus Coloneus. Antigone,
Second Edition. 1879. 8vo. cloth, 16s.

Vol. II. Ajax. Electra. Trachiniae. Philoctetes. Fragments.
1881. 8vo. cloth, 16s.

Sophocles. The Text of the Seven Plays. By
the same Editor. Extra scap. 8vo. cloth, 4s. 6d.

A Manual of Greek Historical Inscriptions.
By E. L. Hicks, M.A., formerly Fellow and Tutor of Corpus
Christi College, Oxford. Demy 8vo. cloth, 10s. 6d.

IV. FRENCH.

An Etymological Dictionary of the French Language, with a Preface on the Principles of French Etymology. By A. Brachet. Translated into English by G. W. Kitchin, M.A. Second Edition. Crown 8vo. cloth, 7s. 6d.

Brachet's Historical Grammar of the French Language. Translated into English by G. W. Kitchin, M.A. Fourth Edition. Extra scap. 8vo. cloth, 3s. 6d.

A Primer of French Literature. By George Saintsbury, M.A. Extra scap. 8vo. cloth, 2s.

A Short History of French Literature. By George Saintsbury, M.A. Crown 8vo. cloth, 10s. 6d.

Specimens of French Literature, from Villon to Hugo. Selected and arranged by George Saintsbury, M.A. Crown 8vo. cloth, 9s.

Corneille's Horace. Edited with Introduction and Notes by George Saintsbury. Extra scap. 8vo. cloth, 2s. 6d.

French Classics, Edited by GUSTAVE MASSON, B.A.

Corneille's Cinna, and Molière's Les Femmes Savantes. With Introduction and Notes. Extra scap. 8vo. cloth, 2s. 6d.

Racine's Andromaque, and Corneille's Le Menteur. With Louis Racine's Life of his Father. Extra scap. 8vo. cloth, 2s. 6d.

Molière's Les Fourberies de Scapin, and Racine's Athalie. With Voltaire's Life of Molière. Extra scap. 8vo. cloth, 2s. 6d.

Selections from the Correspondence of Madame de Sévigné and her chief Contemporaries. Intended more especially for Girls' Schools. Extra scap. 8vo. cloth, 3s.

Voyage autour de ma Chambre, by Xavier de Maistre; *Ourika*, by Madame de Duras; *La Dot de Suzette*, by Fievée; *Les Jumeaux de l'Hôtel Corneille*, by Edmond About; *Mésaventures d'un Écolier*, by Rodolphe Töpffer. Extra scap. 8vo. cloth, 2s. 6d.

Regnard's Le Joueur and Brueys and Palaprat's Le Grondeur. Extra fcap. 8vo. cloth, 2s. 6d.

Louis XIV and his Contemporaries; as described in Extracts from the best Memoirs of the Seventeenth Century. With English Notes, Genealogical Tables, &c. Extra fcap. 8vo. cloth, 2s. 6d.

V. GERMAN.

LANGE'S German Course. By HERMANN LANGE,
Teacher of Modern Languages, Manchester:

The Germans at Home; a Practical Introduction to German Conversation, with an Appendix containing the Essentials of German Grammar. Second Edition. 8vo. cloth, 2s. 6d.

The German Manual; a German Grammar, a Reading Book, and a Handbook of German Conversation. 8vo. cloth, 7s. 6d.

A Grammar of the German Language. 8vo. cloth, 3s. 6d.

This 'Grammar' is a reprint of the Grammar contained in 'The German Manual,' and, in this separate form, is intended for the use of Students who wish to make themselves acquainted with German Grammar chiefly for the purpose of being able to read German books.

German Composition; A Theoretical and Practical Guide to the Art of Translating English Prose into German. 8vo. cloth, 4s. 6d.

Lessing's Laokoon. With Introduction, English Notes, etc. By A. Hamann, Phil. Doc., M.A. Extra fcap. 8vo. cloth, 4s. 6d.

Wilhelm Tell. A Drama. By Schiller. Translated into English Verse by E. Massie, M.A. Extra fcap. 8vo. cloth, 5s.

Also, Edited by C. A. BUCHHEIM, Phil. Doc., Professor
in King's College, London:

Goethe's Egmont. With a Life of Goethe, &c.
Third Edition. Extra scap. 8vo. cloth, 3s.

Schiller's Wilhelm Tell. With a Life of Schiller;
an historical and critical Introduction, Arguments, and a complete
Commentary. Fourth Edition. Extra scap. 8vo. cloth, 3s. 6d.

Lessing's Minna von Barnhelm. A Comedy.
With a Life of Lessing, Critical Analysis, Complete Commentary,
&c. Fourth Edition. Extra scap. 8vo. cloth, 3s. 6d.

Schiller's Historische Skizzen; Egmont's Leben
und Tod, and Belagerung von Antwerpen. Second Edition. Extra
scap. 8vo. cloth, 2s. 6d.

Goethe's Iphigenie auf Tauris. A Drama. With
a Critical Introduction and Notes. Extra scap. 8vo. cloth, 3s.

Modern German Reader. A Graduated Collection
of Prose Extracts from Modern German writers:—

Part I. With English Notes, a Grammatical Appendix, and a complete Vocabulary. Third Edition. Extra scap. 8vo. cloth, 2s. 6d.
Parts II and III in Preparation.

Lessing's Nathan der Weise. With Introduction,
Notes, etc. Extra scap. 8vo. cloth, 4s. 6d.

In Preparation.

Becker's (K. F.) Friedrich der Grosse.

Schiller's Maria Stuart. With Notes, Introduction, &c.

Schiller's Jungfrau von Orleans. With Notes,
Introduction, &c.

*Selections from the Poems of Schiller and
Goethe.*

VI. MATHEMATICS, &c.

Figures Made Easy: a first Arithmetic Book.

(Introductory to ‘The Scholar’s Arithmetic.’) By Lewis Hensley, M.A., formerly Fellow and Assistant Tutor of Trinity College, Cambridge. Crown 8vo. cloth, 6d.

Answers to the Examples in Figures made Easy,

together with two thousand additional Examples formed from the Tables in the same, with Answers. By the same Author. Crown 8vo. cloth, 1s.

The Scholar’s Arithmetic; with Answers to the Examples. By the same Author. Crown 8vo. cloth, 4s. 6d.

The Scholar’s Algebra. An Introductory work on Algebra. By the same Author. Crown 8vo. cloth, 4s. 6d.

Book-keeping. By R. G. C. Hamilton, Financial

Assistant Secretary to the Board of Trade, and John Ball (of the Firm of Quilter, Ball, and Co.), Co-Examiners in Book-keeping for the Society of Arts. New and enlarged Edition. Extra fcap. 8vo. limp cloth, 2s.

A Course of Lectures on Pure Geometry. By

Henry J. Stephen Smith, M.A., F.R.S., Fellow of Corpus Christi College, and Savilian Professor of Geometry in the University of Oxford.

Acoustics. By W. F. Donkin, M.A., F.R.S.,

Savilian Professor of Astronomy, Oxford. 1870. Crown 8vo. cloth, 7s. 6d.

A Treatise on Electricity and Magnetism. By

J. Clerk Maxwell, M.A., F.R.S., Professor of Experimental Physics in the University of Cambridge. Second Edition. 2 vols. Demy 8vo. cloth, 17. 11s. 6d.

An Elementary Treatise on Electricity. By

the same Author. Edited by William Garnett, M.A. Demy 8vo. cloth, 7s. 6d.

A Treatise on Statics. By G. M. Minchin, M.A.,

Professor of Applied Mathematics in the Indian Engineering College, Cooper’s Hill. Second Edition, Revised and Enlarged. 1879. 8vo. cloth, 14s.

Uniplanar Kinematics of Solids and Fluids.
By G. M. Minchin, M.A. Crown Svo. cloth, 7s. 6d.

A Treatise on the Kinetic Theory of Gases.
By Henry William Watson, M.A., formerly Fellow of Trinity College, Cambridge. 1876. 8vo. cloth, 3s. 6d.

A Treatise on the Application of Generalised Coordinates to the Kinetics of a Material System. By H. W. Watson, M.A., and S. H. Burbury, M.A. 1879. Svo. cloth, 6s.

Geodesy. By Colonel Alexander Ross Clarke, C.B., R.E. 1880. Svo. cloth, 12s. 6d.

VII. PHYSICAL SCIENCE.

A Handbook of Descriptive Astronomy. By G. F. Chambers, F.R.A.S. Third Edition. 1877. Demy 8vo. cloth, 28s.

A Cycle of Celestial Objects. Observed, Reduced, and Discussed by Admiral W. H. Smyth, R.N. Revised, condensed, and greatly enlarged by G. F. Chambers, F.R.A.S. 1881. 8vo. cloth, 21s.

Chemistry for Students. By A. W. Williamson, Phil. Doc., F.R.S., Professor of Chemistry, University College, London. A new Edition, with Solutions. 1873. Extra scap. 8vo. cloth, 8s. 6d.

A Treatise on Heat, with numerous Woodcuts and Diagrams. By Balfour Stewart, LL.D., F.R.S., Professor of Natural Philosophy in Owens College, Manchester. Fourth Edition. 1881. Extra scap. 8vo. cloth, 7s. 6d.

Lessons on Thermodynamics. By R. E. Baynes, M.A., Senior Student of Christ Church, Oxford, and Lee's Reader in Physics. 1878. Crown 8vo. cloth, 7s. 6d.

Forms of Animal Life. By G. Rolleston, M.D., F.R.S., Linacre Professor of Physiology, Oxford. Illustrated by Descriptions and Drawings of Dissections. A New Edition in the Press.

Exercises in Practical Chemistry. Vol. I.

Elementary Exercises. By A. G. Vernon Harcourt, M.A.; and H. G. Madan, M.A. Third Edition. Revised by H. G. Madan, M.A. Crown 8vo. cloth, 9s.

Tables of Qualitative Analysis. Arranged by H. G. Madan, M.A. Large 4to. paper covers, 4s. 6d.

Crystallography. By M. H. N. Story-Maskeyne, M.A., Professor of Mineralogy, Oxford; and Deputy Keeper in the Department of Minerals, British Museum. In the Press.

VIII. HISTORY.

The Constitutional History of England, in its Origin and Development. By William Stubbs, D.D., Regius Professor of Modern History. Library Edition. Three vols. demy 8vo. cloth, 2l. 8s.

Also in 3 vols. crown 8vo. price 12s. each.

Select Charters and other Illustrations of English Constitutional History, from the Earliest Times to the Reign of Edward I. Arranged and Edited by W. Stubbs, M.A. Fourth Edition. 1881. Crown 8vo. cloth, 8s. 6d.

A History of England, principally in the Seventeenth Century. By Leopold Von Ranke. Translated by Resident Members of the University of Oxford, under the superintendence of G. W. Kitchin, M.A., and C. W. Boase, M.A. 1875. 6 vols. 8vo. cloth, 3l. 3s.

A Short History of the Norman Conquest of England. By E. A. Freeman, M.A. Extra fcap. 8vo. cloth, 2s. 6d.

Genealogical Tables illustrative of Modern History. By H. B. George, M.A. Second Edition. Small 4to. cloth, 12s.

A History of France. With numerous Maps, Plans, and Tables. By G. W. Kitchin, M.A. In Three Volumes. 1873-77. Crown 8vo. cloth, each 10s. 6d.

Vol. 1. Second Edition. Down to the Year 1453.

Vol. 2. From 1453-1624.

Vol. 3. From 1624-1793.

A History of Germany and of the Empire,
down to the close of the Middle Ages. By J. Bryce, D.C.L.,
Regius Professor of Civil Law in the University of Oxford.

A History of British India. By S. J. Owen,
M.A., Reader in Indian History in the University of Oxford.

A Selection from the Despatches, Treaties, and
other Papers of the Marquess Wellesley, K.G., during his
Government of India. Edited by S. J. Owen, M.A., formerly
Professor of History in the Elphinstone College, Bombay. 1877.
8vo cloth, 1l. 4s.

A Selection from the Despatches, Treaties, and
other Papers relating to India of Field-Marshal the Duke of
Wellington, K.G. By the same Editor. 1880. 8vo. cloth, 24s.

A History of the United States of America.
By E. J. Payne, M.A., Barrister-at-Law, and Fellow of University
College, Oxford. In the Press.

A History of Greece from its Conquest by the
Romans to the present time, B.C. 146 to A.D. 1864. By George
Finlay, LL.D. A new Edition, revised throughout, and in part
re-written, with considerable additions, by the Author, and Edited
by H. F. Tozer, M.A., Tutor and late Fellow of Exeter College,
Oxford. 1877. 7 vols. 8vo. cloth, 3l. 10s.

A Manual of Ancient History. By George
Rawlinson, M.A., Camden Professor of Ancient History, formerly
Fellow of Exeter College, Oxford. Second Edition. Demy 8vo.
cloth, 14s.

A History of Greece. By E. A. Freeman, M.A.,
formerly Fellow of Trinity College, Oxford.

Italy and her Invaders, A.D. 376-476. By T.
Hodgkin, Fellow of University College, London. Illustrated with
Plates and Maps. 2 vols. 8vo. cloth, 1l. 12s.

IX. LAW.

The Elements of Jurisprudence. By Thomas
Erskine Holland, D.C.L., Chichele Professor of International Law
and Diplomacy, and Fellow of All Souls College, Oxford. Second
Edition. Demy 8vo. cloth, 10s. 6d.

The Institutes of Justinian, edited as a recension of the Institutes of Gaius. By the same Editor. Second Edition, 1881. Extra scap. 8vo. cloth, 5s.

Select Titles from the Digest of Justinian. By T. E. Holland, D.C.L., Chichele Professor of International Law and Diplomacy, and Fellow of All Souls' College, Oxford, and C. L. Shadwell, B.C.L., Fellow of Oriel College, Oxford. 8vo. cloth, 14s.

Also sold in Parts, in paper covers, as follows:—

Part I. Introductory Titles. 2s. 6d.

Part II. Family Law. 1s.

Part III. Property Law. 2s. 6d.

Part IV. Law of Obligations (No. 1). 3s. 6d.

Part IV. Law of Obligations (No. 2). 4s. 6d.

Imperatoris Iustiniani Institutionum Libri Quatuor; with Introductions, Commentary, Excursus and Translation. By J. B. Moyle, B.C.L., M.A., of Lincoln's Inn, Barrister-at-Law, and Fellow and Tutor of New College, Oxford. 2 vols. 8vo. cloth, 21s.

Gaii Institutionum Juris Civilis Commentarii Quatuor: or, Elements of Roman Law by Gaius. With a Translation and Commentary by Edward Poste, M.A., Barrister-at-Law, and Fellow of Oriel College, Oxford. Second Edition. 1875. 8vo. cloth, 18s.

An Introduction to the Principles of Morals and Legislation. By Jeremy Bentham. Crown 8vo. cloth, 6s. 6d.

Elements of Law considered with reference to Principles of General Jurisprudence. By William Markby, M.A., Judge of the High Court of Judicature, Calcutta. Second Edition, with Supplement. 1874. Crown 8vo. cloth, 7s. 6d. Supplement separately, 2s.

Alberici Gentilis, I.C.D., I.C. Professoris Regii, De Iure Belli Libri Tres. Edidit Thomas Erskine Holland I.C.D., Iuris Gentium Professor Chicheleianus, Coll. Omn. Anim. Socius. necnon in Univ. Perusin. Iuris Professor Honorarius. 1877. Small 4to. half morocco, 21s.

International Law. By William Edward Hall, M.A., Barrister-at-Law. Demy 8vo. cloth, 21s.

An Introduction to the History of the Law of Real Property, with original Authorities. By Kenelm E. Digby, M.A., of Lincoln's Inn, Barrister-at-Law. Second Edition. 1876. Crown 8vo. cloth, 7s. 6d.

Principles of the English Law of Contract, and of Agency in its Relation to Contract. By Sir William R. Anson, Bart., D.C.L., Warden of All Souls College, Oxford. Second Edition. Demy 8vo. cloth, 10s. 6d.

X. MENTAL AND MORAL PHILOSOPHY.

Bacon. Novum Organum. Edited, with Introduction, Notes, &c., by T. Fowler, M.A., Professor of Logic in the University of Oxford. 1878. 8vo. cloth, 14s.

Locke's Conduct of the Understanding. Edited, with Introduction, Notes, &c., by T. Fowler, M.A., Professor of Logic in the University of Oxford. Second Edition. Extra fcap. 8vo. cloth, 2s.

Selections from Berkeley, with an Introduction and Notes. For the use of Students in the Universities. By Alexander Campbell Fraser, LL.D. Second Edition. Crown 8vo. cloth, 7s. 6d. (See also p. 13.)

The Elements of Deductive Logic, designed mainly for the use of Junior Students in the Universities. By T. Fowler, M.A., Professor of Logic in the University of Oxford. Seventh Edition, with a Collection of Examples. Extra fcap. 8vo. cloth, 3s. 6d.

The Elements of Inductive Logic, designed mainly for the use of Students in the Universities. By the same Author. Third Edition. Extra fcap. 8vo. cloth, 6s.

Prolegomena to Ethics. By the late Thomas Hill Green, M.A., Fellow of Balliol College, and Whyte's Professor of Moral Philosophy in the University of Oxford. Edited by A. C. Bradley, M.A. Demy 8vo. cloth, 12s. 6d.

A Manual of Political Economy, for the use of Schools. By J. E. Thorold Rogers, M.A., formerly Professor of Political Economy, Oxford. Third Edition. Extra fcap. 8vo. cloth, 4s. 6d.

XI. ART, &c.

A Handbook of Pictorial Art. By R. St. J. Tyrwhitt, M.A., formerly Student and Tutor of Christ Church, Oxford. With coloured Illustrations, Photographs, and a chapter on Perspective by A. Macdonald. Second Edition. 1875. 8vo. half morocco, 18s.

A Music Primer for Schools. By J. Troutbeck, M.A., Music Master in Westminster School, and R. F. Dale, M.A., B.Mus., Assistant Master in Westminster School. Crown 8vo. cloth, 1s. 6d.

A Treatise on Harmony. By Sir F. A. Gore Ouseley, Bart., Professor of Music in the University of Oxford. Third Edition. 4to. cloth, 10s.

A Treatise on Counterpoint, Canon, and Fugue, based upon that of Cherubini. By the same Author. Second Edition. 4to. cloth, 16s.

A Treatise on Musical Form and General Composition. By the same Author. 4to. cloth, 10s.

The Cultivation of the Speaking Voice. By John Hullah. Second Edition. Extra scap. 8vo. cloth, 2s. 6d.

XII. MISCELLANEOUS.

The Construction of Healthy Dwellings; namely Houses, Hospitals, Barracks, Asylums, &c. By Douglas Galton, late Royal Engineers, C.B., F.R.S., &c. Demy 8vo. cloth, 10s. 6d.

A Treatise on Rivers and Canals, relating to the Control and Improvement of Rivers, and the Design, Construction, and Development of Canals. By Leveson Francis Vernon-Harcourt, M.A., Balliol College, Oxford, Member of the Institution of Civil Engineers. 2 vols. (Vol. I, Text. Vol. II, Plates.) 8vo. cloth, 21s.

A System of Physical Education: Theoretical and Practical. By Archibald Maclaren. Extra scap. 8vo. cloth, 7s. 6d.

Specimens of Lowland Scotch and Northern English. By Dr. J. A. H. Murray. Preparing.

English Plant Names from the Tenth to the Fifteenth Century. By J. Earle, M.A. Small scap. 8vo. cloth, 5s.

An Icelandic Prose Reader, with Notes, Grammar, and Glossary by Dr. Gudbrand Vigfusson and F. York Powell, M.A. 1879. Extra scap. 8vo. cloth, 10s. 6d.

Dante. Selections from the Inferno. With Introduction and Notes. By H. B. Cotterill, B.A. Extra scap. 8vo. cloth, 4s. 6d.

Tasso. La Gerusalemme Liberata. Cantos i. ii. With Introduction and Notes. By the same Editor. Extra scap. 8vo. cloth, 2s. 6d.

The Modern Greek Language in its relation to Ancient Greek. By E. M. Geldart, B.A. Extra scap. 8vo. cloth, 4s. 6d.

Outlines of Textual Criticism applied to the New Testament. By C. E. Hammond, M.A., Fellow and Tutor of Exeter College, Oxford. Third Edition. Extra scap. 8vo. cloth, 3s. 6d.

A Handbook of Phonetics, including a Popular Exposition of the Principles of Spelling Reform. By Henry Sweet, M.A. Extra scap. 8vo. cloth, 4s. 6d.

LONDON: HENRY FROWDE,

OXFORD UNIVERSITY PRESS WAREHOUSE, 7 PATERNOSTER ROW,

OXFORD: CLARENDON PRESS DEPOSITORY,

116 HIGH STREET.

The DELEGATES OF THE PRESS invite suggestions and advice from all persons interested in education; and will be thankful for hints, &c. addressed to the SECRETARY TO THE DELEGATES, Clarendon Press, Oxford.

**University of Toronto
Library**

**DO NOT
REMOVE
THE
CARD
FROM
THIS
POCKET**

Acme Library Card Pocket

Under Pat. "Ref. Index File"

Made by LIBRARY BUREAU

